FLUKE®

Test Tools Catalogue
2014/2015

THE MOST TRUSTED TOOLS IN THE WORLD

New products from Fluke

Fluke 1625-2, 1623-2 Earth Ground Testers

Principles, testing methods and applications

DIAGNOSE intermittent electrical problems
AVOID unnecessary downtime
LEARN earth ground safety principles

For more information on the new Fluke 1625-2, 1623-2 Earth Ground Testers, see page 30.

VT04A Visual IR Thermometer

Detect issues instantly.

Blended visible and thermal heat map images provide context.

We've taken the extremely popular VT02 and improved performance and added new time-saving features. Stop searching and start solving issues faster. Get a new perspective on troubleshooting electrical panels, motors, bearings, ducts and much more.

For information on the new Fluke VT04A Visual IR Thermometer see page 93.

Fluke Ti400, Ti300, Ti200 Infrared Cameras

Introducing the Ti400, Ti300 and Ti200 Infrared Cameras with advanced connectivity and accuracy to maximise technicians' productivity in the field. These new infrared cameras feature LaserSharp™ Auto Focus, which uses a laser to pinpoint exactly where the camera should focus for precisely focused images every time.

For information on the new Ti400, Ti300, Ti200 Infrared Cameras, see page 83.

Fluke CV Series ClirVu® Infrared Windows

Increase the safety and speed of your electrical infrared inspections, increase the safety of your personnel and reduce the risk of arc-flash and electrocution with Fluke ClirVu® IR Windows. No more removing the panel door for installation and no need to power down to perform inspections.

For information on the CV Series ClirVu® Infrared Windows, see page 88.

Keep yourself updated with Fluke's latest new product releases
www.fluke.com/my/newproducts

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FLUKE®

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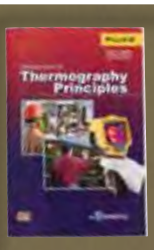


110 Training Centre

Clamp Meters

Clamps Selection Guide

	Residential/commercial electrical			General purpose				Industrial Electrical		HVAC/R	High end industrial, utility		iFlex accessory	Leakage
	323	**324**	**325**	**365**	**373**	**374**	**375**	**376**	**381**	**902**	**353**	**355**	**i2500-10/ i2500-18**	**360***
Measurements														
AC current	•	•	•	•	•	•	•	•	•	•	•	•	•	•
AC volts	•	•	•	•	•	•	•	•	•	•		•		
Resistance	•	•	•	•	•	•	•	•	•	•		•		
Continuity	•	•	•	•	•	•	•	•	•	•		•		
DC Volts	•	•	•	•	•	•	•	•	•	•		•		
DC current			•	•		•	•	•	•	•	•	•		
True-rms	•	•	•	•	•	•	•	•	•	•	•	•	•	
Frequency			•				•	•	•		•	•	•	
AC + DC voltage	•	•	•									•		
AC + DC current			•								•	•		
Min/Max/Avg			•			•	•	•	•	•	•	•	•	
Temperature		•	•							•				
Capacitance		•	•		•	•	•	•	•	•				
Special features														
Inrush current mode						•	•	•	•		•	•	•	
Low Pass filter							•	•	•		•	•		
Harmonics, power, data logging														
18-inch iFlex Flexible Current Probe						Optional	Optional	Included	Included					
10-inch iFlex Flexible Current Probe						Optional	Optional	Optional	Optional					
Remote display									•					
Flashlight/torch				•										
Display														
Display hold	•	•	•	•	•	•	•	•	•	•	•	•		•
Backlight		•	•	•	•	•	•	•	•	•	•	•		•
Specifications														
Jaw opening	30 mm	30 mm	30 mm	18 mm	32 mm	34 mm	34 mm	34 mm	34 mm	30.5 mm	58 mm	58 mm	7.5 mm coil	40 mm
Current range AC rms	0 to 400.0 A	0 to 400.0 A	0 to 400.0 A	0 to 200.0 A	0 to 600.0 A	0 to 600.0 A	0 to 600.0 A	0 to 999.9 A	0 to 999.9 A	0 to 600.0 A	0 to 1400 A	0 to 1400 A	0 to 2500 A	0 to 60 A
Accuracy AC Current (50/60 Hz)	2 % ± 5 counts	1.5 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	3 % ± 5 counts	1 % ± 5 counts
AC Response	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	True-rms	Averaging
Current range DC			0 to 400 A	0 to 200 A		0 to 600.0 A	0 to 600.0 A	0 to 999.9 A	0 to 999.9 A	0 to 200 µA	0 to 2000 A	0 to 2000 A		
Accuracy DC Current			2 % ± 5 counts	2 % ± 5 counts		2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	2 % ± 5 counts	1 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts		
Voltage range AC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	600.0 V		0 to 600.0 V		
Accuracy AC voltage	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	2 % ± 5 counts	1 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1.5 % ± 5 counts	1 % ± 5 counts		1 % ± 5 counts		
Voltage range DC	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 600.0 V	0 to 1000 V	0 to 1000 V	0 to 600.0 V		0 to 1000 V		
Accuracy DC Voltage	1% ± 5 counts	1% ± 5 counts	1 % ± 5 counts	2 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts	1 % ± 5 counts		1 % ± 5 counts		
Resistance range	0 to 4000 Ω	0 to 4000 Ω	0 to 40 kΩ	0 to 6000 Ω	0 to 6000 Ω	0 to 6000 Ω	0 to 6000 Ω	0 to 60 kΩ	0 to 60 kΩ	0 to 9999 Ω		0 to 400 kΩ		
Frequency measurement range			5 to 500 Hz				500 Hz	500 Hz	500 Hz		5 to 1000 Hz	5 to 1000 Hz	500 Hz	
Unit power														
Auto off	•	•	•		•	•	•	•	•	•	•	•		•
Warranty and safety														
Warranty (years)	2	2	2	3	3	3	3	3	3	3	3	3	3	1
Category ratings (EN61010-1)	CAT III 600 V, CAT IV 300 V	CAT III 600 V, CAT IV 300 V	CAT III 600 V, CAT IV 300 V	CAT III 600 V	CAT III 600 V, CAT IV 300 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 1000 V, CAT IV 600 V	CAT III 300 V

Fluke 381 Remote Display True-rms AC/DC Clamp Meter with iFlex™

Fluke 381 with iFlex

The world's most advanced clamp meter

The Fluke 381 Clamp Meter combines iFlex flexibility with remote reading capability for the ultimate in innovation and safety.

- Remote display reads measurements up to 9.1 metres away
- iFlex Flexible Current Probe included, 18 inch circumference
- 2500 A AC current measurement with iFlex
- 1000 A AC and DC current measurement with fixed jaw
- 1000 V AC and DC voltage measurement
- Frequency measurement to 500 Hz
- 60 kΩ resistance measurement
- Min/Max/Avg and inrush recording
- CAT IV 600 V, CAT III 1000 V
- Three-year warranty

See detailed specifications chart on page 3.

Fluke 365 Detachable Jaw True-rms AC/DC Clamp Meter

Fluke 365

Where rugged meets reliable

The Fluke 365 Clamp Meter offers a small, detachable jaw—with 1.2 metres of coil—that makes it easy to take and read measurements in tight or hard-to-reach places.

- 200 A AC and DC current measurement
- 600 V AC and DC voltage measurement
- 6000 Ω resistance measurement
- Built-in flashlight
- Large, easy-to-read backlight display
- Three-year warranty

See detailed specifications chart on page 3.

Ordering information

Included accessories	Models	
18-inch iFlex™ Flexible Current Probe, test leads, soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-381	Remote Display True-rms AC/DC Clamp Meter with iFlex™
Test leads, soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-365	Detachable Jaw True-rms AC/DC Clamp Meter

Recommended Accessories
Fluke 381

TL175
TwistGuard™ Test Leads
See page 102

TLK289
Industrial Master Test Lead Set
See page 100

C345
Large Soft Case
See page 99

FTP-1
SureGrip™ Fused Test Probe Set
See page 102

i2500-10
10 inch iFlex® Flexible Current Probe

AC87
Heavy Duty Bus Bar Clip Set

Recommended Accessories
Fluke 365

FTPL-1
SureGrip™ Fused Test Probe and Lead Set
See page 102

TL71
Premium Test Lead Set
See page 102

C43
Small Soft Case
See page 99

TL220
SureGrip™ Industrial Test Lead Set
See page 100

AC285
SureGrip™ Alligator Clips
See page 102

TL224
SureGrip™ Silicone Insulated Test Leads
See page 102

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 370 Series Clamp Meters

Fluke 376 with iFlex

Be ready for anything

Our family of true-rms clamp meters provides a range of state of-the-art features to meet even the most demanding job requirements.

All four of the clamp meters have improved base features such as a large, backlit display, true-rms standard, CAT IV safety rating and a durably constructed body. Additionally, the 376, 375 and 374 are compatible with the iFlex® Flexible Current Probe (included with the 376, sold separately for the 375 and 374), and provide increased measurement readings to 1000 A and 1000 V AC and DC.

Fluke 375 Fluke 374 Fluke 373

Quick reference guide conversion table

Old model	New model	Feature changes
Fluke 337	**Fluke 381**	Includes all 337 features plus: • Detachable display • CAT IV 600 V, CAT III 1000 V • iFlex 2500 A AC • 1000 V AC/DC • 60 kΩ • Min/Max/Avg
Fluke 337	**Fluke 376**	Includes all 337 features plus: • CAT IV 600 V, CAT III 1000 V • iFlex 2500 A ac • 1000 V AC/DC • mV DC • 60 kΩ • 1000 µF
Fluke 336	**Fluke 375**	Includes all 336 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac • mV DC • 60 kΩ • 1000 µF • Min/Max/Avg
	Fluke 374	Includes all 336 features (except low pass filter) plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac • 1000 µF • Min/Max/Avg
Fluke 335	**Fluke 374**	Includes all 335 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac • 600 A AC/DC • 1000 µF • Min/Max/Avg
	Fluke 373	Includes all 335 features (except inrush) plus: • CAT IV 300 V, CAT III 600 V • 1000 µF
Fluke 334	**Fluke 374**	Includes all 334 features plus: • CAT IV 600 V, CAT III 1000 V • Optional iFlex 2500 A ac • True-rms • 600 A AC/DC • 1000 µF • Min/Max/Avg
	Fluke 373	Includes all 334 features (except inrush) plus: • CAT IV 300 V, CAT III 600 V • True-rms • 1000 µF
Fluke 333	**Fluke 373**	Includes all 333 features plus: • CAT IV 300 V, CAT III 600 V • True-rms • 600 A AC • 6000 Ω • 1000 µF

Ordering information

Included accessories	Models	
18 inch iFlex™ flexible current probe, test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-376	True-rms AC/DC Clamp Meter with iFlex™
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-375	True-rms AC/DC Clamp Meter
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-374	True-rms AC/DC Clamp Meter
Test leads, soft carrying case, instruction card, safety information sheet, two AA alkaline batteries.	FLUKE-373	True-rms AC Clamp Meter

iFlex® Flexible Current Probe

Unprecedented measurement flexibility

The iFlex Flexible Current Probe expands the measurement range of select Fluke clamp meters to 2500 A AC while providing increased display flexibility, improved wire access and the ability to measure awkward-sized conductors. Available in 18 inch and 10 inch coil sizes.

Visit **www.fluke.com/my/clamp** for additional specifications.

Recommended Accessories

TL223
SureGrip™ Electrical Test Lead Set
See page 100

C43
Small Soft Case
See page 99

TL175
TwistGuard™ Test Leads
See page 102

i2500-18
18 inch iFlex™ Flexible Current Probe
For use with the Fluke 375 and 376

AC285
SureGrip™ Alligator Clips
See page 102

TL224
SureGrip™ Silicone Insulated Test Leads
See page 102

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 902 True-rms HVAC Clamp Meter

Fluke 902

Just for our HVAC pros

HVAC (heating, ventilation, air conditioning) technicians require a service tool that can consistently keep up with their demands. The Fluke 902 expands the existing line of quality Fluke clamp meters by delivering the features necessary to diagnose and repair HVAC systems. Combined with true-rms technology and a CAT III 600 V rating, the Fluke 902 helps technicians do their jobs safely and accurately.

- Designed for HVAC applications with capacitance, DC current (µA) and temperature measurements
- Small body and jaws fit perfectly in your hand and into tight places
- Handy "Display Hold" button keeps measurements on the display
- Meter controls are positioned so current measurements can be done with one hand (index finger on clamp opening lever and thumb on rotary switch)
- Three-year warranty

See detailed specifications chart on page 3.

Recommended Accessories

Fluke 902

C781
Meter Case
See page 99

80PK-8
Pipe Clamp
See page 104

Fluke 360 AC Leakage Current Clamp Meter

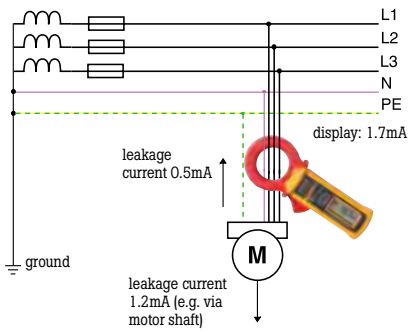
Fluke 360

The unique jaw design of the Fluke 360 eliminates the influence of adjacent current conductors and measures leakage current down to 1 µA for monitoring of insulation. The ergonomic design of the Fluke 360 ensures easy measuring. The measuring clamp fits into tight spaces and the wide display angle clearly shows the measurement result. The Data Hold button keeps the measured value on the display after removing the clamp for the measured conductor.

Current measurement

- Automatic ranging within the manually selected mA or range
- Ranges 3/30 mA and 30/60 A
- Current resolution 1 µA/0.01 mA and 0.01 A/0.1 A
- Measurement of leakage protectives
- Advanced shielding to ensure accurate results when measuring near other conductors
- Frequency range 50 and 60 Hz
- Jaw size: 40 mm (1.55 in) maximum conductor diameter
- Auto power off with audible warning buzzer

See detailed specifications chart on page 3.



Ordering information

Included accessories	Models	
Test leads, temperature probe, soft carrying case, users manual, two AA alkaline batteries.	FLUKE-902	True-rms HVAC Clamp Meter
Soft carrying case, users manual.	FLUKE-360	AC Leakage Current Clamp Meter

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 320 Series True-rms Clamp Meters

Fluke 325

Go to work with the best

True-rms measurements and optimised ergonomics make the 320 Series True-rms Clamp Meters the best general troubleshooting tools for commercial and residential electricians. The 323, 324 and 325 are designed to verify the presence of load current, AC voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400 A in tight cable compartments. The Fluke 325 also offers DC current and frequency measurements.

- 400 A AC current measurement (AC and DC current; 325 only)
- 600 V AC and DC voltage measurement
- True-rms AC voltage and current for accurate measurements on non-linear signals
- Resistance measurement to up to 40 kΩ with continuity detection
- Temperature and capacitance measurement (324 and 325 only)
- Frequency measurement (325 only)
- Slim, ergonomic design
- Large, easy to read backlight display (324 and 325 only)
- CAT IV 300 V/CAT III 600 V safety rating
- Hold button
- Two-year warranty
- Soft carrying case

Fluke 324 Fluke 323

Specifications

	Residential/commercial electrical		Light industrial
	323	324	325
Measurements			
AC current	•	•	•
AC voltage	•	•	•
Resistance	•	•	•
Continuity	•	•	•
DC volts	•	•	•
DC current			•
True-rms	•	•	•
Frequency			•
Min/Max/Avg			•
Temperature		•	•
Capacitance		•	•
Display			
Display hold	•	•	•
Backlight			•
Specifications			
Jaw opening	30 mm (1.18 in)		
Max wire size	600 MCM		
Current range AC rms	0 to 400.0 A		
Accuracy AC current (50/60 Hz)	2.0 % ± 5 digits	1.5 % ± 5 digits	2.0 % ± 5 digits
AC response	True-rms		
Current range DC			0 to 400 A
Accuracy DC current			2.0 % ± 5 digits
Voltage range AC	0 to 600.0 V		
Accuracy AC voltage	1.5 % ± 5 digits		
Voltage range DC	0 to 600.0 V		
Accuracy DC voltage	1 % ± 5 digits		
Resistance range	0 to 4000 Ω		0 to 40 kΩ
Frequency measurement range			500 Hz

Ordering information

Included accessories	Models	
Test leads, soft case and users manual. Temperature probe included with 324 and 325 only.	FLUKE-325	True-rms Clamp Meter
	FLUKE-324	True-rms Clamp Meter
	FLUKE-323	True-rms Clamp Meter
Soft carrying case, instruction card, safety information sheet, five AA alkaline batteries.	FLUKE-353	AC/DC True-rms Clamp Meter, 2000 A, amps only
1.5 m silicone rubber test leads, test probes, alligator clips, soft carrying case, six AA batteries, users manual.	FLUKE-355	AC/DC True-rms Clamp Meter, 2000 A

Recommended Accessories

C43
Small Soft Case
See page 99

TL175
TwistGuard™ Test Leads
See page 102

TL223
SureGrip™ Electrical Test Lead Set
See page 100

L210
Probe Light and Extender
See page 107

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 350 Series AC/DC True-rms Clamp Meters

Fluke 355

Versatile, professional, accurate

Confidently take reliable readings with the true-rms Fluke 355 and 353 Clamp Meters—the tools of choice for high current clamp-on amp meter measurements up to 2000 A.

- Reliably handle a wide range of high-current applications with 2000 A AC+DC true-rms, 1400 A AC, and 2000 A DC
- Large 58 mm (2.3 in) jaw
- Inrush current measurement
- High voltage measurement of 1000 V AC + DC true-rms, 600 V AC, and 1000 V DC (355 only)
- Resistance to 400 KΩ (355 only)
- Continuity beeper (355 only)
- Frequency measurement to 1 KHz
- Selectable low-pass filter mode
- Min/Max/Avg
- Large display with backlight

Fluke 353

Recommended Accessories

Fluke 355

TL175
TwistGuard™
Test Leads
See page 102

80TK
Thermocouple Module
See page 104

C345
Large Soft Case
See page 99

C1600
Gear Tool Box
See page 99

Features

Features	353	355
True-RMS measurements	•	•
Display backlight	•	•
Motor start-up current	•	•
Min/Max/Average	•	•
Voltage AC/DC		•
Resistance measurement		•
Continuity measurement with beeper		•

Specifications

Functions	Range	353	355
Current AC/DC	0–40.00 A	1.5% ± 15 counts	1.5% ± 15 counts
	0–400.0 A	1.5% ± 5 counts	1.5% ± 5 counts
	0–2000 A; 1400 AC rms		
Crest Factor		2.4	2.4
Voltage AC/DC	0–4.000 V		1% ± 10 counts
	0–40.00 V		1% ± 5 counts
	0–400.0 V		
	0–600 V AC rms		
	0–1000 V DC		
Resistance	0–400.0 Ω		1.5% ± 5 counts
	0–4.000 kΩ		
	0–40.00 kΩ		
	0–400.0 kΩ		
Continuity beeper	Appr. ≤ 30 Ω		
Frequency	5.0Hz to 100.0Hz		0.2% ± 2 counts
	100.1Hz to 999Hz		0.5% ± 5 counts

Power Supply: 6 x 1.5V AA NEDA 15A or IEC LR6
Battery life: 100 hours (with typical usage, backlight off)
Size (HxWxD): 300 mm x 98 mm x 52 mm
Jaw opening: 58 mm
Weight: 0.814 kg
Three year warranty

Ordering information

Included accessories	Models	
C43 Soft Meter Case, 6 AA batteries, users manual	FLUKE-353	AC/DC AC/DC Clamp Meter
C43 Soft Meter Case, 6 AA batteries, TL224 SureGrip® Silicone Test Lead Set, TP2 Slim Reach Test Probe Set (2 mm), AC285 SureGrip® Alligator Clip Set, users manual	FLUKE-355	AC/DC AC/DC Clamp Meter

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Digital Multimeters

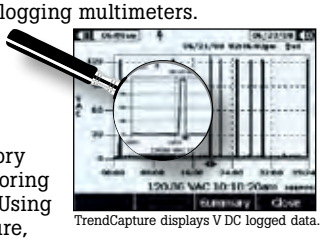
DMM Selection Guide

	Highest accuracy		Remote display	High-end Industrial		Industrial maintenance and field service			Electrical	HVAC/R	Field Service	Basic Electrical		Heavy duty (IP67)		General Purpose	Auto-motive	Loop calibration		Insulation test	
Basic features	**289**	**287**	**233**	**87V**	**83V**	**179**	**177**	**175**	**117**	**116**	**115**	**114**	**113**	**27II**	**28II/28IIEx**	**77IV**	**88V**	**789**	**787**	**1587**	**1577**
Counts	50000	50000	6000	20000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	20000	6000	20000	4000	4000	6000	6000
True RMS readings	AC+DC	AC+DC	AC	AC		AC	AC	AC	AC	AC	AC	AC	AC		AC		AC	AC	AC	AC	AC
Basic DC accuracy	0.3%	0.3%	0.25%	0.05%	0.1%	0.09%	0.09%	0.15%	0.5%	0.5%	0.5%	0.5%	2.0%	0.1%	0.05%	0.3%	0.1%	0.1%	0.1%	0.09%	0.2%
Wide bandwidth	100 kHz	100 kHz		20 kHz	5 kHz									20 kHz	50 kHz						
Auto/manual ranging	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●		
Measurements																					
Voltage AC/DC	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V	600 V	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Current AC/DC	10 A	10 A	10 A	10 A	10 A	10 A	10 A	10 A	10 A	200 µA	10 A			10 A	10 A	10 A	10 A	1 A	1 A	400 mA	400 mA
Resistance	500 MΩ	500 MΩ	40 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	40 MΩ	40 MΩ	40 MΩ	40 MΩ	60 kΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	40 MΩ	40 MΩ	50 MΩ	50 MΩ
Frequency	1 MHz	1 MHz	50 kHz	200 kHz	200 kHz	100 kHz	100 kHz	100 kHz	50 kHz	50 kHz	50 kHz			200 kHz	200 kHz	100 kHz	200 kHz	20 kHz	20 kHz	100 kHz	
Capacitance	100 mF	100 mF	10 mF	10 mF	10 mF	10 mF	10 mF	10 mF	10 mF	10 mF	10 mF		10 mF	10 mF	10 mF	10 mF	10 mF			10 mF	
Temperature	+1350°C	+1350°C	+400°C	+1090°C		+400°C				+400°C					+1090°C		+1090°C			+500°C	
dB	60 dB	60 dB																			
Conductance	50 nS	50 nS		60 nS	60 nS									60 nS	60 nS		60 nS				
Duty cycle/pulse width	●/●	●/●		●/-	●/-									●/●	●/●		●/●				
Continuity with beeper/Diode test	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●
4–20mA loop current as % readout																		●	●		
Motor drive measurement	●			●											●					●	
RPM/Dwell																	●/-				
VoltAlert™, Non-contact voltage detection									●												
LoZ: low input impedance	●								●	●		●									
VCHEK™ LoZ													●								
Microamps	●	●		●	●					●											
Insulation test																				●	●
Number of insulation test ranges																				5	2
Display																					
Dual display	●	●																●	●		
Analog bargraph	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
Backlight	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Remote display			●																		
Data storage and exchange																					
Min-Max recording/with time stamp	●/●	●/●	●	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	●/-	
Fast Min-Max	250 µs	250 µs		250 µs											250 µs		250 µs				
Display Hold/Auto (Touch) Hold	●/●	●/●	●	●/●	●/●	●/●	●/●	●/●	●/-	●/-	●/-	●/-	●/-	●/●	●/●	-/●	●/●	-/●	-/●	-/●	
Relative	●	●		●	●									●	●		●	●	●		
Stand alone logging/TrendCapture	●/●	●/●																			
USB interface/RS232 interface	●/●	●/●																●/●			
Readings memories	10000	10000																			
Other features																					
Source 4–20mA loop current/24V loop supply																		●/●	●/-		
Automatic selection, AC/DC volts									●	●		●									
Real time clock	●	●																			
Smoothing						●	●	●												●	
Integrated holster	●	●	●			●	●	●								●		●			
Removable holster				●	●				●	●	●	●	●	●	●		●		●	●	●
Closed case calibration	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
Separate battery/fuse access	●/●	●/●	●/●	●/-	●/-	●/●	●/●	●/●	●/-	●/-	●/-	●/-	●/-	●/●	●/●		●/-	●/●	●/-	●/●	●/●
Completely sealed/watertight														●	●						
Automatic power off	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Low battery indication	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Warranty and safety																					
Lifetime warranty/warranty (years)	●	●	3	●	●	●	●	●	3	3	3	3	3	●	●	●	●	3	3	3	3
Input alert	●	●		●	●									●	●		●				
Dangerous voltage indication	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●
EN61010-1 CAT III	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V	600 V	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
EN61010-1 CAT IV	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V						600 V	600 V	600 V	600 V			600 V	600 V

Fluke 280 Series True-rms Logging Multimeters

Fluke 353

Find little problems before they become big ones
The Fluke 289 and 287 are the next generation in high performance industrial logging multimeters.


TrendCapture displays V DC logged data.

- Large 50,000 count, 1/4 VGA dot matrix display with white backlight
- Logging function with expanded memory for unattended monitoring of signals over time. Using on-board TrendCapture, users can graphically review logged readings without needing a PC. Store up to 10,000 recorded events
- Save, name, and recall multiple logging sessions before PC download is necessary
- Zoom on trend, provides unprecedented ability to view and analyse TrendCapture data; zoom in up to 14 times
- Two terminal 50 ohm range with 1 milliohm resolution, 10 mA source current. Useful for measuring and comparing differences in motor winding resistance or contact resistance (289)
- Low-pass filter for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (289)

Features

	287	289
Multiple on screen displays	•	•
True-rms AC bandwidth	100 kHz	100 kHz
dBV/dBm	•	•
DC mV resolution	1 µV	1 µV
Megohm range up to	500 MΩ	500 MΩ
Conductance	50.00 nS	50.00 nS
Continuity beeper	•	•
Elapse time clock/time of day clock	•	•
Min/Max/Avg/duty cycle/pulse width	•	•
Isolated optical DMM interface with USB PC connection	•	•
Auto/touch hold	•	•
Over 200 hours logging capacity with new power saving function	•	•
Lo Ohm capability	–	•
Lo Z volts	–	•
Lo Pass Filter	–	•
Limited lifetime warranty	•	•

Specifications

Functions	Range and resolution	Basic Accuracy
AC volts or DC volts	50.000 mV, 500.00 mV, 5.0000 V, 50.000 V, 500.00 V, 1000.0 V	0.025 % 0.4 % (true-rms) (AC)
AC current DC current	500.00 µA, 5000.0 µA, 50.000 mA, 400.00 mA, 5.0000 A, 10.000 A	0.15 % 0.7 % (true-rms)
Temperature (excluding probe)	-200.0 °C to 1350.0 °C (-328.0 °F to 2462.0 °F)	1.0 %
Resistance	50.000 Ω, 500.00 Ω, 5.0000 kΩ, 50.000 kΩ, 500.00 kΩ, 5.0000 MΩ, 50.00 MΩ, 500.0 MΩ	0.05 %
Capacitance	1.000 nF,10.00 nF, 100.0 nF, 1.000 µF, 10.00 µF, 100.0 µF, 1000 µF, 10.00 mF, 100 mF	1.0 %
Frequency	99.999 Hz, 999.99 Hz, 9.9999 kHz, 99.999 kHz, 999.99 kHz	.005 %

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, 9 V battery (installed), manual information pack.	FLUKE-289	True-rms Industrial Logging Multimeter with TrendCapture
	FLUKE-287	True-rms Electronics Logging Multimeter with TrendCapture
	FLUKE-289/FVF	True-rms Industrial Logging Multimeter Combo Kit with TrendCapture
	FLUKE-287/FVF	True-rms Electronics Logging Multimeter Combo Kit with TrendCapture

Recommended Accessories

TLK289
Industrial
Test Lead Set
See page 100

TLK287
Electronic
Test Lead Set
See page 100

TPAK
Magnetic Meter Hanger
See page 107

i410
AC/DC Current Clamp
See page 106

TL175
TwistGuard™ Test Leads
See page 102

C280
Soft Case
See page 99

Recommended Kits

289/FVF kit includes:
- True-rms industrial logging multimeter with TrendCapture
- FlukeView Forms Software and cable
- Temperature probe
- Silicone test lead set
- Alligator clips
- Meter hanging accessory
- Soft case

287/FVF kit includes:
- True-rms electronic logging multimeter with TrendCapture
- FlukeView Forms Software and cable
- Temperature probe
- Modular test leads (red, black)
- Modular test probes (red, black)
- Alligator clips (red, black)
- Soft case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 80 Series V Digital Multimeters

Fluke 87V

Fluke 83V

Performance and accuracy for maximum industrial productivity

The Fluke 80 Series V have improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in plant automation, power distribution, and electro-mechanical equipment.

The Fluke 87V has a unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment. A built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument.

Electrical safety

All inputs are protected to CAT III 1000 V and CAT IV 600 V. They can withstand impulses in excess of 8,000 V to help protect you from arc blast resulting from surges and spikes.

Features

Features	87V	83V
Peak capture to record transients as fast as 250 µs	•	
Measure up to 1000 V AC and DC	•	•
Auto and manual ranging for maximum flexibility	•	•
Analogue bargraph	•	•
Frequency to 200 kHz and % duty cycle	•	•
Min/Max and average recording to capture variations automatically	•	•
Relative mode to remove test lead resistance from low ohms measurements	•	•
Access door for fast battery changes without breaking the calibration seal	•	•
Limited lifetime warranty	•	•

Specifications

Functions	Range and resolution	Basic accuracy	
		87V	83V
DC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.05 %	0.1 %
AC volts	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	0.7 % (true-rms)	0.5 %
DC current	600.0 µA, 6000 µA, 60.00 µA, 600.0 mA, 6.000 A, 10.00 A	0.2 %	0.4 %
AC current	600.0 µA, 6000 µA, 60.00 µA, 600.0 mA, 6.000 A, 10.00 A	1.0 % (true-rms)	1.2 %
Temperature (excl. probe)	-200 °C to 1090 °C (-328 °F to 1994 °F)	1.0 %	–
Temperature Probe	-40 °C to 260 °C (-40 °F to 500 °F)	2.2 °C or 2 %	–
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	0.2 %	0.4 %
Capacitance	10.00 nF, 100.0 nF, 1.000 µF, 10.00 µF, 100.0 µF, 9,999 µF	1.0 %	1.0 %
Frequency	199.99 Hz, 1.9999 kHz, 19.999 kHz, 199.99 kHz	0.005 %	0.005 %

Battery life: 400 hours typical with backlight off. **Size (LxWxD):** 201 mm x 98 mm x 52 mm (7.9 in x 3.8 in x 2 in).
Weight: 355 g (22 oz).

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, batteries (installed), temperature probe (87V only), manual information pack.	FLUKE-87-5	Industrial True-rms Multimeter with Temperature
	FLUKE-83-5	Industrial Multimeter
	FLUKE-87-5/E2	Industrial Electrician's Combo Kit

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL220
SureGrip™ Industrial Test Lead Set
See page 100

TL175
TwistGuard™ Test Leads
See page 102

i400
AC Current Clamp
See page 105

C43
Small Soft Case
See page 99

CXT80
Extreme Case
See page 99

AC285
SureGrip™ Alligator Clips
See page 102

TL224
SureGrip™ Silicone Insulated Test Leads
See page 102

Recommended Kits

Fluke 87V/E2 Industrial Electrician's Combo Kit

- Industrial multimeter
- 1.5 m silicone test leads
- Removable probes with 4 mm of exposed metal for use on industrial circuits
- Retractable long reach alligator clips
- Meter hanging accessory
- Type K temperature probe
- Soft case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 27 II/28 II/28 II Ex Industrial IP67 Digital Multimeters

Fluke 27 II

Fluke 28 II

The 27 II, 28 II and 28 II Ex Digital Multimeters are designed for tough work environments. All three meters have IP 67 waterproof and dustproof rating. They both have an extended operating temperature range of –15 °C to + 55 °C (5 °F to 131 °F) and 95 % humidity.

- Unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (28 II, 28 II Ex)
- Built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument (28 II, 28 II Ex)
- Hi-resolution 20,000 count display mode (28 II, 28 II Ex)
- Resistance and continuity. Relative mode to remove test lead resistance from low ohms measurements
- Large digit display with bright, two-level backlight
- Backlit keypad buttons allow for easy visibility in low-lit areas
- Optional magnetic hanger for easy setup and viewing freeing your hands for other tasks
- Intrinsically safe certifications from the world's leading certification bodies (28 II Ex)

See intrinsically safe model on page 75

Features

	27 II	28 II	28 II Ex
Tested to withstand a 3 m (10 ft) drop	•	•	•
Wide 1000 V measurement range	•	•	•
True-rms AC voltage and current for accurate measurements on non-linear signals	–	•	•
Low pass filter	–	•	•
Temperature	–	•	•
Average responding voltage and current measurements	•	–	–
10 A continuous (20 A for 30 seconds)	•	•	•
Frequency and capacitance	•	•	•
Record signal fluctuations using the Min/Max function	•	•	•

Specifications

		27 II	28 II	28 II Ex
DC voltage	Range	0.1 mV to 1000 V		
	Accuracy	0.05 % +1	0.05 % + 1	0.05 % + 1
AC voltage	Range	0.1 mV to 1000 V		
	Accuracy	0.5 % +3	0.7 % +4	0.7 % +4
DC current	Range	0.1 µA to 10 A		
	Accuracy	0.2 % + 4	0.2 % + 4	0.2 % + 4
AC current	Range	0.1 µA to 10 A		
	Accuracy	1.5 % + 2	1.0 % + 2	1.0 % + 2
Resistance	Range	0.1 0 to 50 MΩ		
Display counts		6000	6000/19,999	6000/19,999
Capacitance		1 nF to 9999 µF		10 nF to 9999 µF
Frequency		0.5 Hz to 199.99 kHz		
Temperature			–200 °C to +1090 °C	–200 °C to +1090 °C
Low pass filter (measurement on VSD's)			Yes	Yes
Compliance		CAT IV 600 V, CAT III 1000 V		
Measurement method		Avg. responding	True-rms	True-rms
Power		Three AA batteries		
Battery life		800 hours		400 hours
Dimensions (DxWxH)		6.35 cm x 10.0 cm x 19.81 cm (2.5 in x 3.93 in x 7.8 in)		
Weight with holster		698.5 g (l.54 lb)		

Ordering information

Included accessories	Models	
Test leads, temperature probe, alligator clips, batteries, holster, manual information pack.	FLUKE-27-II	Industrial Multimeter
	FLUKE-28-II	Industrial Multimeter
	FLUKE-28-II Ex	Intrinsically Safe Industrial Multimeter

Specialty Models

Fluke 28 II Ex Intrinsically Safe True-rms Multimeter

See page 75 for more information.

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Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TLK-225
SureGrip™ Master Accessory Set
See page 100

PV350
Pressure-Vacuum Module
See page 108

i410
AC/DC Current Clamp
See page 106

CXT80
Extreme Hard Case
See page 99

C550
Tool Bag
See page 99

TL175
TwistGuard™ Test Leads
See page 102

TL225
Stray Voltage Adapter Test Lead Kit

i2000 FLEX
AC Current Clamp
See page 102

C25
Meter Case
See page 99

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 170 Series Digital Multimeters

Versatile meters for field service or bench repair

Fluke 179

The three models of the Fluke 170 Series True RMS digital multimeters (179,177,175) have the features needed to find most electrical, electro-mechanical and heating and ventilation problems. They are simple to use and have significant improvements over Fluke's standards, and a much larger display that's easier to view.

- True RMS voltage and current measurements
- 0.09% basic accuracy (177, 179)
- 6000 count resolution
- Digital display with analog bargraph and backlight (177, 179)
- Manual and automatic ranging
- Display Hold and Auto Hold
- Frequency and capacitance measurements
- Resistance, continuity and diode measurements
- Temperature measurements (179)
- Min-max-average recording
- Smoothing mode allows filtering of rapidly changing inputs
- Easy battery exchange without opening the case
- Closed case calibration through front panel
- Ergonomic case with integrated protective holster
- EN61010-1 CAT III 1000V / CAT IV 600V
- Measures twice as fast as other multimeters

Electrical safety

All inputs are protected to measurement CAT III 1000 V and CAT IV 600 V. This meter can withstand transient impulses in excess of 8000 V to help protect you from arc blasts resulting from surges and spikes.

Features

Features	179	177	175
Max voltage	1000	1000	1000
True-rms	•	•	•
Temperature	•	–	–
Basic DC accuracy	0.09 %	0.09 %	0.15 %
Backlight	•	•	–
Min/Max/Avg	•	•	•
ToolPak meter hanging kit with magnet	Opt	Opt	Opt
Limited lifetime warranty	•	•	•

Specifications

Functions	Range and resolution	Best accuracy
DC voltage	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 0.09 % (Models 177 and 179) ± 0.15 % (Model 175)
AC voltage[1]	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 1.0 % of reading
DC current	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.0 % of reading
AC current[2]	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.5 % of reading
Resistance	600.0 Ω, 6.000 kΩ, 60.00 kΩ, 600.0 kΩ, 6.000 MΩ, 50.00 MΩ	± 0.9 % of reading
Capacitance	1000 nF, 10.00 µF, 100.0 µF, 9999 µF	± 1.2 % of reading
Frequency[3]	99.99 Hz, 999.9 Hz, 9.999 Hz, 99.99 kHz	± 0.1 % of reading
Temperature (Model 179)	-40 °C to +400 °C (-40 °F to +752 °F)	1.0 % of reading

[1] All AC voltage and AC current ranges are specified from 5 % of range to 100 % of range.
[2] 10 A continuous, 20 A for up to 30 seconds.
[3] Voltage frequency is specified from 2 Hz to 100 kHz. Current frequency is specified from 2 Hz to 30 kHz.
Battery life: 200 hours typical for alkaline.
Size (HxWxL): 4.3 cm x 9.0 cm x 18.5 cm (1.7 in x 3.5 in x 7.3 in).

Ordering information

Included accessories	Models	
Test leads, 9 V battery (installed) and manual. The Fluke 179 also includes a temperature probe.	FLUKE-179	True RMS Digital Multimeter
	FLUKE-175	True RMS Digital Multimeter
	FLUKE-177	True RMS Digital Multimeter
	FLUKE-179/1AC-II	Electricians Combo Kit
	FLUKE-179/EDA2	Electronics Combo Kit

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL81A
Deluxe Electronic Test Lead Set
See page 100

TL175
TwistGuard™ Test Leads
See page 102

i410
AC/DC Current Clamp
See page 106

CXT170
Extreme Hard Case
See page 99

C25
Meter Case
See page 99

Recommended Kits

179/EDA2 Electronics Multimeter and Deluxe Accessory Combo Kit
- True-rms digital multimeter
- Electronic test probes
- SureGrip™ silicone test leads
- SureGrip™ heavy duty hook clips
- Type K temperature probe
- Meter hanging accessory
- Soft case

179/1AC-II Electrician's Multimeter and Voltage Tester Combo Kit
- True-rms digital multimeter
- Non-contact voltage detector
- Alligator clips
- SureGrip™ test probes
- Silicone test leads, 1.5 m
- Type K temperature probe
- Meter hanging accessory
- Soft case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 233 Remote Display Digital Multimeter

Fluke 233

The Fluke 233 Remote Display Digital Multimeter allows you to be in two places at once. The removable display solves several problems. First, you no longer have to hold both the meter and the test leads to make a measurement. It also allows you to measure where the measurement point is separated from controls or where the operator can't stay close to the meter during measurements due to various hazards or moving machinery.

- Wireless technology allows the display to be carried up to 9.1 metres (30 feet) away from the point of measurement for added flexibility
- The removable magnetic display can be conveniently mounted where it is easily seen
- Low-power 802.15.4 wireless technology does not interfere with measurement accuracy
- Use as a conventional multimeter when the display is connected
- True-rms AC voltage and current
- Built-in thermometer
- Auto power off maximises battery life (400 hours)
- Radio transmitter automatically turns off when the display is connected to the meter
- Record signal fluctuations using the Min/Max function

Features

Features	233
Removable magnetic display	•
True-RMS measurement	•
Digital display counts	6000
Display backlight	•
Built in thermometer	•
Resistance, continuity and diode test	•
Min/Max and average recording	•
Auto power off maximises battery life	•
Radio transmitter automatically turns off when the display is connected to the meter	•
Use as conventional multimeter when the display is connected	•
Safety rating	CAT IV 600V/CAT III 1000 V
Auto and manual ranging	•
Display Hold and AutoHold®	•
Unsafe voltage alert warns for voltages above 30V	•
2 Low batteries indication	•
Ergonomic case with integrated holster	•
Selectable sleep mode preserves battery life	•

Specifications

Functions	Specifications	
DC voltage	Range	0.1 mV to 1000 V
	Accuracy	0.25 % + 2
AC voltage	Range	0.1 mV to 1000 V
	Accuracy	1.0 % + 3
DC current	Range	0.001 A to 10 A
	Accuracy	1.0 % + 3
AC current	Range	0.001 A to 10 A
	Accuracy	1.5 % + 3
Resistance	Range	0.1 Ω to 40 MΩ
Capacitance		1000 nF to 9999 µF
Frequency		0.1 Hz to 50.00 kHz
Temperature		-40 °C to +400 °C (-40 °F to 752 °F)
Power		Three AA batteries main body, two AA batteries display module
Battery life		400 hours
Compliance		CAT IV 600 V , CAT III 1000 V
Size (HxWxL)		5.3 cm x 5.3 cm x 19.3 cm (2.08 in x 2.08 in x 7.6 in)
Weight		604 g (1.3 lb)

Ordering information

Included accessories	Models	
Test leads, temperature probe, alligator clips, batteries, manual information pack.	FLUKE-233	Remote Display Multimeter

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL220
SureGrip Industrial Test Lead Set
See page 100

80PK-22
SureGrip™ Immersion Temperature Probe
See page 103

i400s
AC Current Clamp
See page 105

80AK-A
Thermocouple Adapter
See page 103

AC285
SureGrip™ Alligator Clips
See page 102

TL175
TwistGuard™ Test Leads Meter Hanger
See page 102

TLK289
SureGrip Industrial Test Lead Set
See page 100

TP175
TwistGuard™ Test Probes
See page 102

FTP-1
SureGrip™ Fused Test Probe Set
See page 102

TL224
SureGrip™ Silicone Insulated Test Leads
See page 102

C35
Soft Carrying Case
See page 99

C101
Hard Case
See page 99

C781
Meter Case
See page 99

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 117 and 115
True-rms Digital Multimeters

Fluke 117

Fluke 115

Fluke 117 Electrician's Multimeter with Non-Contact Voltage

The 117 is for electricians working in commercial and non-commercial premises (like hospitals and schools). It includes extras like non-contact voltage detection for faster and safer operation.

Fluke 115 Field Service Testing Multimeter

An everyday multimeter for technicians, the 115 is for electrical and electronic testing in field service, industrial, and applications where more than the basic functions simplify work.

- VoltAlert™ technology for integrated non-contact voltage detection (117)
- AutoVolt feature for automatic AC/DC voltage selection (117)
- LoZ: Low input impedance prevents false readings due to "ghost voltage" (117)
- Large display and white LED backlight to work in poorly lit areas more effectively
- Compact ergonomic design for one-handed operation
- Min/Max/Avg to record signal fluctuations
- Compatible with optional magnetic hanger (TPAK) for hands free operation
- Current measurement 20 A (30 seconds momentary; 10 A continuous)
- Resistance, continuity, frequency and capacitance

Features

Features	117	115	113
VoltAlert™ detector	•	–	–
AutoVolt/LoZ	•	–	LoZ
Analogue bargraph	•	•	•
Large backlit digital display	•	•	•
True-rms for accurate measurements on non-linear loads	•	•	•
Min/Max recording	•	•	•
Display hold	•	•	•
3-1/2 digits	•	•	•
6000 counts	•	•	•
CAT III 600 V safety rated	•	•	•
Three-year warranty	•	•	•

Specifications

Functions	117	115	113	Accuracy
Volts AC/DC	600 V	600 V	600 V	0.5 % + 2
Current AC/DC	10 A	10 A	–	1.0 % + 3
Resistance	40 MΩ	40 MΩ	60 kΩ	0.9 % + 2
Capacitance	1 nF to 9,999 µF	1 nF to 9,999 µF	–	1.9 % + 2
Diode test	Yes	Yes	Yes	–
Frequency	5 Hz to 50 kHz	5 Hz to 50 kHz	–	0.1 % + 2

Ordering information

Included accessories	Models	
Test leads, holster, users manual and 9 V battery (installed).	FLUKE-117	Multimeter with Non-Contact Voltage
	FLUKE-115	Multimeter
	FLUKE-113	Utility Meter
	FLUKE-117/323	Electrician's Combo Kit

Specialty Model

Fluke 113

- Basic electrical and utility multimeter
- VCHEK™ LoZ low impedance measurement function to simultaneously test for voltage or continuity
- True-rms for accurate AC measurements on non-linear loads
- Record signal fluctuations using the Min/Max function
- Diode and capacitance measurements
- Integral holster with probe holders for easy storage
- Auto and manual ranging for added user functionality
- Meets CAT IV 600 V standards for a higher level of safety

For more information, go to www.fluke.com/my/113

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL220
SureGrip Industrial Test Lead Set
See page 100

TL175
TwistGuard™ Test Leads
See page 102

C115
Soft Carrying Case
See page 99

Recommended Kits

117/323 Electrician's Combo Kit

- True-rms digital multimeter with non-contact voltage detection
- Compact clamp meter
- Test lead set
- Magnetic meter hanging strap
- Deluxe carrying case with shoulder strap

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 116 and 114 Digital Multimeters

HVAC/R and electrical troubleshooting

Fluke 116

Fluke 114

Fluke 116 Multimeter with Temperature and Microamps

The 116 is for heating, ventilation and air conditioning (HVAC) engineers. It includes temperature measurement and microamp current ranges to quickly troubleshoot HVAC problems.

Fluke 114 Electrical Multimeter

The 114 is for electrical troubleshooting and straightforward 'go/no-go' in residential/commercial testing. It has all the basic functions plus a special feature to prevent false readings caused by ghost voltage.

- Built in thermometer for HVAC applications (116)
- Microamps to test flame sensors (116)
- AutoVolt: Automatic AC/DC voltage selection (114)
- LoZ: Helps prevent false readings due to ghost voltage
- Min/Max/Avg to record signal fluctuations
- Resistance, continuity, frequency and capacitance
- Large white LED backlight to work in poorly lit areas
- Compact ergonomic design for one-handed operation
- Compatible with optional magnetic hanger (TPAK)

Features

Features	116	114
Temperature	•	–
Microamps	•	–
Frequency	•	–
Capacitance	•	–
Diode test	•	–
AutoVolt/LoZ	•	•
Analogue bargraph	•	•
Large backlit digital display	•	•
True-rms for accurate measurements on non-linear loads	•	•
Min/Max recording	•	•
Display hold	•	•
3-1/2 digits	•	•
6000 counts	•	•
CAT III 600 V safety rated	•	•
Three-year warranty	•	•

Specifications

Functions	Range and resolution	Best accuracy
Volts AC/DC	600 V	0.5 % + 2
Current AC/DC (116 only)	600.0 µA	1.0 % + 2
Temperature (116 only)	+400 °C	1.0 % + 18
Resistance	40 MΩ	0.9 % + 2
Capacitance (116 only)	1 nF to 9,999 µF	1.9 % + 2
Frequency (116 only)	5 Hz to 50 kHz	0.1 % + 2

Ordering information

Included accessories	Models	
Test leads, integrated temperature probe (116 only), holster, users manual and 9 V battery (installed).	FLUKE-116	HVAC Multimeter with Temperature and Microamps
	FLUKE-114	Electrical Multimeter
	FLUKE-116/62 Max+	HVAC Combo Kit
	FLUKE-116/323	HVAC Combo Kit

Recommended Accessories

Fluke 116

80AK-A
DMM Adapter
See page 103

80PK-22
SureGrip™ Immersion Temperature Probe
See page 103

80PK-8
Pipe Clamp Temperature Probe
See page 104

80PK-27
SureGrip™ Industrial Surface Probe
See page 103

Recommended Kits

116/323 HVAC Combo Kit

- HVAC multimeter with temperature and microamps
- Compact clamp meter
- Test lead set
- Pipe wrap thermocouple
- Thermocouple adapter
- Thermocouple bead probe
- Meter hanging accessory
- Deluxe carrying case with shoulder strap

116/62 MAX+ HVAC Combo Kit

- HVAC multimeter with temperature and microamps
- Infrared thermometer
- Test lead set
- Pipe wrap thermocouple
- Thermocouple adapter
- Type K integrated temperature probe
- Magnetic meter hanging strap
- Deluxe carrying case with shoulder strap

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 88V and 77IV Digital Multimeters

For automotive, field service or bench repair

Fluke 88V

Fluke 88V Automotive Multimeter

The Fluke 88V Automotive Multimeter is designed to help automotive professionals solve problems faster. This DMM has the measurement functions, troubleshooting features and accuracy to solve virtually any problem with conventional and hybrid vehicles.

- Automotive test functions include DC and AC voltage, resistance and current
- Min/Max recording for logging the highest and lowest readings over time
- Frequency measurements for magnetic sensors and AC/DC frequency signals
- Duty cycle for variable duty cycle signals with selectable trigger, slope and level
- Pulse width for fuel injector on-time measurements
- Conductance testing for secondary ignition coils
- RPM measurements for DIS and conventional ignition systems
- Built-in thermometer

Hybrid Ready

1000 V CAT III 600 V CAT IV · LIMITED LIFETIME WARRANTY · CE · C SA US · N10140

Fluke 77IV

Fluke 77IV Digital Multimeter

The Fluke 77IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

- Wide 1000 V measurement range
- Average responding AC measurements
- 0.3 % accuracy
- 10 amps continuous
- Frequency and capacitance
- Resistance and continuity
- Large display
- Backlight for work in dim areas
- Min/Max to record signal fluctuations
- Integral holster with probe holders
- Free your hands with the optional TPAK magnetic hanger
- Auto and manual ranging

1000 V CAT III 600 V CAT IV · LIMITED LIFETIME WARRANTY · N10140 · CE · C SA US · UL LISTED 950 Z

Specifications

	88V	77IV
V DC	1000 V	1000 V
V AC	100 V	100 V
A DC	10 A	10 A
A AC	10 A	10 A
Resistance	50 MΩ	50 MΩ
Capacitance	9,999 µF	9,999 µF
Frequency	200.00 kHz	99.99 kHz
Duty Cycle	99.9 %	–
Temperature	1994.0 °F (1090 °C)	–
Conductance	60.00 nS	–

Ordering information

Included accessories	Models	
Test leads, manual information pack and 9 V battery (installed).	FLUKE-88-5	Automotive Multimeter
	FLUKE-77-4	Digital Multimeter
	FLUKE-88-5/A KIT	Automotive Multimeter Combo Kit

Recommended Accessories

Fluke 88V

TLK281
Automotive Test Lead Kit
See page 101

TLK282
Deluxe Automotive Test Lead Kit
See page 101

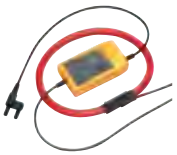
Fluke 77IV

TPAK
Magnetic Meter Hanger
See page 107

i400
AC Current Clamp
See page 105

TL175
TwistGuard™ Test Leads
See page 102

TLK-225
SureGrip™ Master Accessory Kit
See page 100



i2000 Flex
AC Current Clamp
See page 105

C35
Soft Carrying Case
See page 99

Recommended Kits

88V/A Combo Kit

- Automotive multimeter
- Heat resistant silicone test leads
- Removable sharp point test probes
- Large jaw alligator clips
- Temperature probe
- Inductive pick-up
- Automotive backprobe pins
- Insulation piercing probe
- Meter hanging accessory
- Durable carrying case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 8846A/8845A/8808A Precision Bench Multimeters

Fluke 8846A

Fluke 8846A/8845A 6.5 Digit Precision Multimeters

These digital multimeters perform the functions you would expect to see in a multifunction DMM, including measuring volts, ohms and amps. Basic V DC accuracy of up to 0.0024 %, 10 A current range, and a wide ohms range give you an unbeatable combination of measurement capability.

Extend the meters' utility even more with their graphical display modes, including Trendplot™ paperless recorder mode, statistics and histograms—features you won't find on other multimeters

- 6.5 digit resolution
- Up to 0.0024 % accuracy
- Graphical analysis modes: TrendPlot, Histogram, and Statistics
- Dual measurement inputs: front/rear
- Dual measurement display
- Wide measurement ranges
- IEEE, LAN, RS-232 interfaces
- USB memory device port (8846A)
- TL2X4 wire measurement technique
- Three-year warranty
- 17025 accredited report of calibration included

Fluke 8845A

Fluke 8808A

Fluke 8808A 5.5 Digit Multimeter

The Fluke 8808A multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V DC accuracy of 0.015 %. The meter is easy to use and include innovative functions to simplify routine testing and precision 4 wire resistance measurements.

- 5.5 digit resolution
- Up to 0.015 % accuracy
- Dual measurement display
- Sensitive DC leakage current ranges
- Front panel setup keys
- TL2X4 wire measurement technique
- Three-year warranty

Specifications

	Fluke 8808A	Fluke 8845A	8846A
Display	Dual	Dual, graphical	
Resolution (digits)	5.5	6.5	
Measurements	V AC, V DC, I DC, I AC, Ω, Cont, Diode	V AC, V DC, I DC, I AC, Ω, Cont, Diode	
Basic V DC accuracy (% Reading + % Range)	0.015 + 0.003	0.0035 + 0.0005	0.0024 + 0.0005
Advanced measurements/ functions	2x4 wire ohms, freq, i-Leakage dedicated setup keys	2x4 wire ohms, freq, period	2x4 wire ohms, freq, period, capacitance, temp (RTD)
Math	Null, dBm, dB, Min, Max	Null, dBm, dB, Min, Max, Ave, Std Deviation, MX+B	
Analysis	Limit Compare	Limit Compare, TrendPlot, Histogram, Statistics	
USB memory device port	No	No	Yes
Interfaces	RS-232, USB via optional adapter	RS-232, IEEE-488.2, LAN, USB via optional adapter	
Safety rating	CAT I 1000 V, CAT II 600 V	CAT I 1000 V, CAT II 600 V	

Ordering information

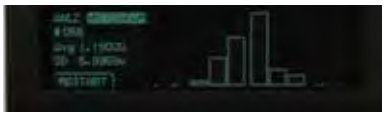
Included accessories	Models	
Power cord, test lead set, programmers manual/users manual on CD, FVF-BASIC, FlukeView Forms Software Basic Version.	FLUKE-8846A	6.5 Digit Precision Multimeter, 24 ppm USB memory
	FLUKE-8845A	6.5 Digit Precision Multimeter, 35 ppm
Test leads, line cord, getting started guide, users manual on CD.	FLUKE-8808A	5.5 Digit Multimeter

Sample Screens

Fluke 8846A/8845A

Built-in TrendPlot graphically plots extent of drift and intermittent events.

Critical measurement statistics are



conveniently displayed together. Histogram mode can reveal stability or noise problems.

Perform two interrelated measurements like volts and amps, or volts AC and frequency (and 8808A).

Measure sensitive DC currents accurately using unique design that minimises measurement error due to shunt burden voltages (8808A only).

Recommended Accessories

TL2X4W-TWZ
2x4-Wire Ohms Tweezers Test Leads

TL2X4W-PTII
2x4-Wire Ohms Test Lead

Y8846D
Rack Mount Kit, Dual

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Battery Analyzer

Fluke 500 Series Battery Analyzers

More battery tests. Less time. Results you can trust.

Fluke BT521

The new Fluke 500 Series Battery Analyzer is an ideal test tool for maintenance, troubleshooting and performance testing of individual stationary batteries and battery banks used in critical battery back-up applications. The intuitive user interface, compact design and rugged construction ensure optimum performance, test results and reliability. Fluke 500 Series Battery Analyzers cover a broad range of battery test functions ranging from DC voltage and resistance tests to full condition testing using an automated string function testing and the test probe integrated infra-red temperature measurement system. 500 Series Battery Analyzers are designed for measurements on lead-acid stationary batteries including GEL, AGM (Absorbed Glass MAT) lithiumion and wet-cell lead–acid batteries.

Intelligent test probe with Integrated LCD display

- **Key measurements:** Battery resistance, dc and ac voltage, dc and ac current, ripple voltage, frequency and battery temperature.
- **Sequence measurement mode:** Automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with BTL21 intelligent test probe).
- **Comprehensive logging:** All measured values are automatically captured during testing and can be reviewed on the instrument before downloading for on-the-go analysis.
- **Threshold comparison:** Configure multiple reference values and thresholds for resistance and voltage. Comparison result feedback after each measurement via visual and verbal cues.
- **Test probe extenders:** Long reach probes for double stacked cells.
- **Intelligent test probe set (BT520 and BT521):** Integrated LCD display, infrared temperature measurement (BT521 only), flashlight, verbal audio feedback and captures voltage readings and temperature logging automatically or via integrated save button.
- **Enhanced data analysis:** Quickly compare trends, analyze results and create reports with included battery management software.
- **Easy reporting:** Generate PDF report on the PC software with analysis graphics and data table or quick email format report with csv file on the mobile app.

Specifications

Functions	Range	Resolution	Accuracy	BT508	BT510	BT520	BT521*
Battery resistance[1]	3 mΩ	0.001 mΩ	1 % + 8	•	•	•	•
	30 mΩ	0.01 mΩ	0.8 % + 6	•	•	•	•
	300 mΩ	0.1 mΩ	0.8 % + 6	•	•	•	•
	3000 mΩ	1 mΩ	0.8 % + 6	•	•	•	•
Vdc	6 V	0.001 V	0.09 % + 5	•	•	•	•
	60 V	0.01 V	0.09 % + 5	•	•	•	•
	600 V	0.1 V	0.09 % + 5	•	•	•	•
	1000 V	1 V	0.09 % + 5				•
Vac (45 Hz to 500 Hz with 800 Hz filter)	600 V	0.1 V	2 % + 10		•	•	•
Frequency (displayed with Vac and Aac)[2]	500 Hz	0.1 Hz	0.5 % + 8		•	•	•
AC voltage ripple (20 KHz Max)	600 mV	0.1 mV	3 % + 20		•	•	•
	6000 mV	1 mV	3 % + 10		•	•	•
Adc/Aac (with accessory Fluke i410)	400 A	1 A	3.5 % + 2				•
Temperature	0 °C to 60 °C	1 °C	2 °C (4 °F)				•
Meter mode	999 records for each measurement position with time stamp						
Sequence mode	Up to 100 profiles and 100 profile templates (Each profile stores up to 450 batteries) with time stamp						

[1]The measurement is based on ac injection method. The injected source signal is <100 mA, 1 kHz.
[2]Trigger level VAC: 10 mV, Aac: 10 A

* Available only in selected countries, check the Fluke website for more information.

Specifications continued

Measurement modes	BT508	BT510	BT520	BT521*
Resistance (mΩ)	•	•	•	•
Battery voltage	•	•	•	•
Voltage dc	•	•	•	•
Voltage ac and frequency (Hz)		•	•	•
Ripple volt		•	•	•
Temperature of negative battery post				•
DC and ac current (and frequency)				•
DMM mode	•	•	•	•
Sequence mode		•	•	•
Discharge measurement mode		•	•	•
Automatic measurement save	•	•	•	•
Wireless communication				•
Memory view	•	•	•	•
General Specifications				
Size (HxWxD)	22 cm x 10.3 cm x 5.8 cm (9 in x 4 in x 2 in)			
Weight	850 g (1.9 lb)			
Screen dimensions	7.7 cm x 5.6 cm (3 in x 2.2 in)			
Interface	USB mini			
Environment Specifications				
Operating temperature	0 °C to 40 °C			
Storage temperature	-20 °C to 50 °C			
Lithium-ion battery charging temperature	0 °C to 40 °C			
Operating humidity	Non-condensing (10 °C); <=80 % RH (at 10 °C to 30 °C); <=75 % RH (at 30 °C to 40 °C)			
Operating altitude	Sea level to 2000 meters			
Storage altitude	Sea level to 12,000 meters			
IP rating	IP40			
Radio	FCC Class A			
Vibration requirements	MIL-PRF-28800F: Class 2			
Drop test requirements	1 meter			
Temperature coefficients	Add 0.1 x specified accuracy for each degree C above 28 °C or below 18 °C			
Safety compliance	600 V CAT III			
EMC	IEC 61326			
ROHS	China, Europe			
Protection Class 2	Pollution Degree II			
Battery compliance	UN38.3; UL2054; IEC62133; 2G per IEC68-2-26, 25G, and 29			

Items supplied with each model

Equipment	Qty.	BT508	BT510	BT520	BT521*
Battery analyzer	1	•	•	•	•
4-wire test pin (set)	1	•	•	•	•
BTL10 Basic Test Lead (set)	1	•	•	•	•
TL175 TwistGuard™ Test Leads with adapter	1	•	•	•	•
L300 Attachable LED Flashlight	2			•	•
BTL20 Intelligent Test Probe Set, with extender (no temperature sensor)	1			•	
BTL21 Intelligent Test Probe set, with extender and temperature sensor	1				•
i410 AC/DC Current Clamp	1				•
BP500 7.4 V 3000 mAh lithium-ion battery	1	•	•	•	•
BC500 18 V AC Charger	1	•	•	•	•
Standard mini-b USB cable (cable length:1 m)	1	•	•	•	•
Shoulder strap	1	•	•	•	•
Belt strap	1	•	•	•	•
Magnetic hanging strap	1	•	•	•	•
FlukeView® Battery Management (CD) containing USB driver and manuals in all languages	1	•	•	•	•
Soft carrying case	1	•	•	•	•
Spare fuses	2	•	•	•	•
Paper battery tags	100			•	•

* Available only in selected countries, check the Fluke website for more information.

Ordering information

Included accessories	Models	
Refer to the table above for items supplied with each model	Fluke BT508	Simple Battery Analyzer
	Fluke BT510	Basic Battery Analyzer
	Fluke BT520	Battery Analyzer
	Fluke BT521*	Advanced Battery Analyzer

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Distance Meters

Fluke 424D, 419D and 414D Laser Distance Meters

Fluke 424D

Introducing the next generation of Fluke Laser Distance Meters

Measure farther, with greater accuracy, in more situations.

- **Instant measurements up to 100 m (330 ft):** Just point, click and done
- **Measure with greater accuracy:** Up to ± 1 mm, no scales to interpret or misread
- **Do the work of two:** Instead of holding the tape, your helper can do other jobs
- **Speed up the job:** Easily measure hard-to-access areas, like high ceilings, without climbing a ladder
- **Keep it on the level:** New inclination sensor on the Fluke 424D helps with leveling, height tracking, measuring around obstacles
- **Reduce estimating errors let the meters do the math:** Find area and volume. Easily add and subtract distances. Use Pythagoras calculations for height
- Three-year warranty

Complies with FDA 21 CFR 1040.10,11 except for deviations pursuant to Laser Notice No 50.

N10140

Fluke 419D

Fluke 414D

Specifications

Features	Fluke 424D	Fluke 419D	Fluke 414D
Maximum measurement distance	100 m (330 ft)	80 m (260 ft)	50m (165ft)
Accuracy	± 1 mm (± 0.04 in)	± 1 mm (± 0.04 in)	± 2 mm (± 0.08 in)
Battery life (number of measurements)	5000	5000	3000
Area measurement	Yes	Yes	Yes
Volume measurement	Yes	Yes	Yes
Pythagoras calculations	Full	Full	1+2
Plus and minus calculations	Yes	Yes	Yes
Measurement storage	20 complete displays	20 complete displays	5 results
Backlight	Yes	Yes	No
Minimum/Maximum	Yes	Yes	Yes(Pyth)
Audible keypad feedback	Yes	Yes	–
Tripod mount	Yes	Yes	-
Corner angle measurement	Yes	–	–
Stake out	Yes	Yes	–
Dust and splash proof	IP54	IP54	IP40
Compass	Yes	–	–
Inclination sensor	Yes	–	–
Display	4 line	3 line	2 line
Automated end-piece correction	Yes	–	–

Ordering information

Included accessories	Models	
Two AAA batteries, users manual on CD, quick start guide, nylon carrying case.	FLUKE-424D	Laser Distance Meter 100m (330 ft)
	FLUKE-419D	Laser Distance Meter 80m (260 ft)
	FLUKE-414D	Laser Distance Meter 50m (165 ft)
	FLUKE-414D/62 Max+	Laser Distance Meter/Infrared Thermometer Combo Kit
	FLUKE-62 MAX+	Dual laser infrared thermometer, 12:1 spot
	FLUKE-62 MAX	Single laser infrared thermometer, 10:1 spot

Recommended Kits

414D/62 Max+ Kit

- Fluke 414D Laser Distance Meter
- Fluke 62 Max+ Infrared Thermometer
- Soft pouch for 414D

Other Products

Fluke 62 Max and 62 Max+ Infrared Thermometers

Designed with your on-the-job needs in mind, the Fluke 62 MAX and 62 MAX+ infrared thermometers are everything you'd expect from the experts in measurement tools. Small in size, extremely accurate and very easy to use. IP54 rated for dust and water resistance. Precise yet rugged enough to take a 3-metre drop. In fact, the 62 MAX and 62 MAX+ are so tough, they're the only IR thermometers around you can handle without care.

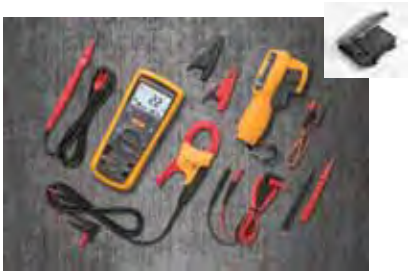
For more information, go to **www.fluke.com/my/62max**

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

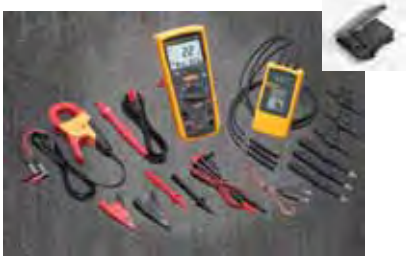
Insulation Testers/ Earth Ground Testers

Insulation Tester Selection Guide

	1577	1587	1503	1507	1550C	1555
InstallationTest Functionality						
Test voltages	500V, 1000V	50V, 100V, 250V, 500V, 1000V	500V, 1000V	50V, 100V, 250V, 500V, 1000V	250V, 500V, 1000V, 2500V, 5000V	250V, 500V, 1000V, 2500V, 5000V, 10000V
Insulation Resistance Test Range	0.1MΩ - 600MΩ	0.01 MΩ - 2GΩ	0.1MΩ - 2GΩ	0.01MΩ - 10GΩ	200KΩ - 1TΩ	200KΩ - 2TΩ
Polarization Index/Dielectric Absorption Ratio				•	•	•
Auto Discharge	•	•	•	•	•	•
Time Ramp test (Breakdown)					•	•
Pass/Fail Comparison				•		
Estimated Number of Insulation resistance Tests	1000	1000	1000	1000	1000 @ 5000 V	1000 @ 10000 V
Voltage > 30V Warning	•	•	•	•	•	•
Memory					(99 locations)	(99 locations)
Remote Test Probe	•	•	•	•		
Lo Ohms			•	•		
Display	Digital LCD	Digital LCD	Digital LCD	Digital LCD	Digital LCD / Analog Bar Graph	Digital LCD / Analog Bar Graph
Continuity	•	•	(200mA)	(200mA)		
Multimeter Functionality						
AC/DC Volts	•	•	•	•		
Current	•	•				
Resistance	•	•	•	•		
Temperature (contact)		•				
Lo-Pass Filter		•				
Capacitance		•			•	•
Diode Test		•				
Frequency		•				
MIN/MAX		•				
Other						
Hold/Lock	•	•	•	•	•	•
Backlight	•	•	•	•		
Software					(Fluke View® Forms Basic)	(Fluke View® Forms Basic)
Warranty (in years)	3	3	1	1	3	3
Battery	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	4 AA (NEDA 15A or IEC LR6)	Rechargeable	Rechargeable



Fluke 1587/ET



Fluke 1587/MDT

Buy a Fluke 1587 Combo Kit and Save

Fluke 1587/ET Advanced Electrical Troubleshooting Kit

This kit contains:
- Fluke 1587 Insulation Multimeter
- Fluke 62 Max+ Infrared Thermometer
- i400 Current Clamp

Perform insulation tests with the Fluke 1587 plus a wide-range of DMM tasks with confidence and ease. Use the i400 with your Fluke 1587 to accurately measure AC current without breaking the circuit. Check for hot spots and measure temperature with the Fluke 62 Max+ Infrared Thermometer.

Fluke 1587 Kit order details on following page

Fluke 1587/MDT Advanced Motor & Drive Troubleshooting Kit

This kit contains:
- Fluke 1587 Insulation Multimeter
- Fluke 9040 Phase Rotation Indicator
- i400 Current Clamp

Perform insulation tests with the Fluke 1587 plus a wide-range of DMM tasks with confidence and ease. Use the i400 with your Fluke 1587 to accurately measure AC current without breaking the circuit. Check the phase-rotation of three-phase motors easily and safely with the Fluke 9040.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1587 and 1577 Insulation Multimeters

Fluke 1587

Two powerful tools in one

The Fluke 1587 and 1577 Insulation Multimeters combine a digital 1 kV insulation tester with a full-featured, true-rms digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventive maintenance.

- Insulation test (1587: 0.01 MΩ to 2 GΩ) (1577: 0.1 MΩ to 600 MΩ)
- Insulation test voltages (1587: 50 V, 100 V, 250 V, 500 V, 1000 V), (1577: 500 V, 1000 V) for many applications
- Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection
- Auto-discharge of capacitive voltage for added user protection
- Filter for motor drive measurements (1587 only)
- AC/DC voltage, DC millivolts, AC/DC milliamps, resistance (Ω), and continuity
- Capacitance, diode test, temperature, Min/Max, and frequency (Hz) (1587 only)
- Auto power off to save battery power
- Large display with backlight and large digits
- Included accessories: Remote probe, test leads and probes, alligator clips, (Type K thermocouple, 1587 only)
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Rugged, utility hard case allows you to bring everything you need for the job

Fluke 1577

Specifications

Features	1587	1577	1507	1503
Insulation test voltages 50 V, 100 V, 250 V, 500 V, 1000 V	•	–	•	–
Insulation test voltages 500 V, 1000 V	–	•	–	•
Insulation resistance	0.01 MΩ to 2.0 GΩ	0.1 MΩ to 600 MΩ	0.01 MΩ to 10 GΩ	0.1 MΩ to 2 GΩ
Auto-discharge of capacitive voltage	•	•	•	•
Insulation test smoothing reading	•	–	–	–
Frequency	•	–	–	–
Capacitance	•	–	–	–
Diode test	•	–	–	–
Temperature	•	–	–	–
Min/Max	•	–	–	–
Low-pass filter (for work on VSDs)	•	–	–	–
AC/DC voltage	•	•	–	–
DC millivolts	•	•	–	–
AC/DC milliamps	•	•	–	–
Resistance	0.1 Ω to 50 MΩ	0.1 Ω to 50 MΩ	0.1 Ω to 20.00 KΩ	0.1 Ω to 20.00 KΩ
Continuity	•	•		–
Warranty	Three-year	Three-year	One-year	One-year
Remote probe, test leads, alligator clips	•	•	•	•
Type K thermocouple	•	–	–	–
Rugged, utility hard case	•	•	•	•
Auto power off	•	•	•	•
Page number	17	17	24	24

Ordering information

Included accessories	Models	
Remote probe, test leads, alligator clips, Type K thermocouple (1587 only), hard case and users manual.	FLUKE-1577	Insulation Multimeter
	FLUKE-1587	Insulation Multimeter
	FLUKE-1587/ET	Advanced Electrical Troubleshooting Kit
	FLUKE-1587/MDT	Advanced Motor and Drive Troubleshooting Kit

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

i400
AC Current Clamp
See page 105

C100
Universal Carrying Case
See page 99

TL27
Heavy Duty
Test Leads

Recommended Kits

Get more value and productivity

Establishing a preventive maintenance program is becoming critical to maintaining the uptime of electrical equipment and can significantly reduce both planned and unplanned downtime. Unplanned downtime costs are difficult to calculate, but are often significant. For some industries, it can represent 1 % to 3 % of revenue (potentially 30 % to 40 % of profits) annually.

These kits can help you be proactive and efficient with your maintenance and can save you money off the individual price of the tools.

Fluke 1587/ET Advanced Electrical Troubleshooting Kit includes:

- Fluke 1587 Insulation Multimeter
- Fluke i400 Current Clamp
- Fluke 62 MAX+ Infrared Thermometer

Fluke 1587/MDT Advanced Motor and Drive Troubleshooting Kit includes:

- Fluke 1587 Insulation Multimeter
- Fluke i400 Current Clamp
- Fluke 9040 Phase Rotation Indicator

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1507/1503 Insulation Resistance Testers

Fluke 1507

These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications.

Features

- Automatic calculation of polarisation index and dielectric absorption ratio (1507 only)
- Multiple test voltages: 50 V, 100 V, 250 V, 500 V, 1000 V (1507 only)
- Remote test probe for rapid testing
- Insulation test range 0.01 MΩ to 10 GΩ (1507), 0.1 MΩ to 2000 MΩ (1503)
- Compare (Pass/Fail) function for repetitive tests (1507 only)
- Live circuit detection prevents insulation test if voltage > 30 V is detected
- Auto-discharge of capacitive voltage
- AC/DC voltage: 0.1 V to 600 V
- Lo ohms/Earth-bond continuity (200 mA) for checking connections and motor windings
- Resistance: 0.01 Ω to 20.00 Ω
- One-year warranty

Fluke 1503

Features

Features	1503	1507
User selectable test voltages for many applications	•	•
Additional test voltages 50V, 100V, 250V		•
Special remote control probe for easy and safe measurements	•	•
Auto-discharge of capacitive voltage for added user protection	•	•
Live circuit detection prevents insulation test if voltage > 30 V is detected for added user protection	•	•
Save both time and money with Automatic calculation of Polarisation Index and Dielectric Absorption Ratio		•
Auto Power off to save batteries	•	•
Large display with backlight	•	•
Continuity function (200 mA)	•	•
Compare function (pass/fail) for fast repetitive tests		•

Specifications

Insulation specifications	1503	1507
Insulation test range	0.1 MΩ to 2 GΩ	0.01 MΩ to 10 GΩ
Test voltages	500 V, 1000 V	50 V, 100 V, 250 V, 500 V, 1000 V
Test voltage accuracy	+ 20 %, - 0 %	+ 20 %, - 0 %
Insulation test current	1mA nominal	1mA nominal
AC/DC Voltage measurement	600 V (0.1 V resolution)	600 V (0.1 V resolution)
Resistance measurement range	0.01 Ω to 20 kΩ	0.01 Ω to 20 kΩ
Auto discharge	Discharge time < 0.5 second for C = 1 µF or less	Discharge time < 0.5 second for C = 1 µF or less
Maximum capacitive load	Up to 1 µF	Up to 1 µF
Open circuit test voltage	> 4 V , < 8 V	> 4 V , < 8 V
Short circuit current	> 200 mA	> 200 mA

Battery life: Insulation Test: > 1000 tests
Size (HxWxD):
203 mm x 100 mm x 50 mm

Weight: 0.55 kg
One Year Warranty

Ordering information

Included accessories	Models	
Remote probe, silicone test leads, test probes, large alligator clips, holster, users manual.	FLUKE-1507	Insulation Tester
	FLUKE-1503	Insulation Tester
Soft carrying pouch, users manual.	FLUKE-360	AC Leakage Current Clamp Meter

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL27
Heavy Duty Test Lead Set

C116
Soft Carrying Case
See page 99

C101
Hard Case
See page 99

360
AC Leakage Current Clamp Meter
See page 6

Applications

Insulation test at a distribution panel

Wiring test in a small distribution box – all in one spot

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

1555 and 1550C Insulation Resistance Testers

Fluke 1555

Fluke 1550C

Powerful troubleshooting and predictive maintenance tools

The Fluke 1555 and redesigned Fluke 1550C insulation resistance testers offer digital insulation testing up to 10 kV, making them ideal for testing a wide range of high voltage equipment including switchgear, motors, generators and cables.

- Test voltages up to 5 kV (1550C) and 10 kV (1555) provide solutions for all applications
- Warning function alerts the user that line voltage is present and gives a voltage reading up to 600 V AC or DC for increased user safety
- Measurements can be stored in up to 99 memory locations, and each location is assigned a unique, user-defined label for easy recall
- Long battery life gives the user over 750 tests between changes
- Automatic calculation of Dielectric Absorption (DAR) and Polarisation Index (PI) with no additional setup
- Guard system eliminates the effect of surface leakage current on high-resistance measurements
- Large digital/analogue LCD for easy viewing
- Capacitance and leakage current measurement
- Ramp function for breakdown testing
- Three-year warranty

Specifications

The tester's accuracy is specified for one year after calibration at operating temperatures of 0 °C to 35 °C. For operating temperatures outside the range (-20 °C to 0 °C and 35 °C to 50 °C), add ± .25 % per °C, except on the 20 % bands add ± 1 % per °C.

Insulation resistance measurement		
Test voltage (dc)	**Range**	**Accuracy (± reading)**
250 V	< 200 kΩ 200 kΩ to 5 GΩ 5 GΩ to 50 GΩ > 50 GΩ	unspecified 5 % 20 % unspecified
500 V	< 200 kΩ 200 kΩ to 10 GΩ 10 GΩ to 100 GΩ > 100 GΩ	unspecified 5 % 20 % unspecified
1000 V	< 200 kΩ 200 kΩ to 20 GΩ 20 GΩ to 200 GΩ > 200 GΩ	unspecified 5 % 20 % unspecified
2500 V	< 200 kΩ 200 kΩ to 50 GΩ 50 GΩ to 500 GΩ > 500 GΩ	unspecified 5 % 20 % unspecified
5000 V	< 200 kΩ 200 kΩ to 100 GΩ 100 GΩ to 1 TΩ > 1 TΩ	unspecified 5 % 20 % unspecified
10000 V (1555 only)	< 200 kΩ 200 kΩ to 200 GΩ 200 GΩ to 2 TΩ > 2 TΩ	unspecified 5 % 20 % unspecified

Functions	Range	Accuracy (± reading)
Leakage current	1 nA to 2 mA	± (5 % + 2 nA)
Capacitance measurement	0.01 uF to 15.00 µF	± (15 % rdg + 0.03 µF)
Live circuit indicator	30 V to 600 V ac/dc, 50/60 Hz	± (5 % + 2 V)

Ordering information

Included accessories	Models	
Test leads with alligator clips, ruggedised alligator clips (kits and 1555 only), infrared adapter with interface cable, FlukeView Forms software, AC power cord, soft carrying case, quick reference guide, users manual.	FLUKE-1550C	5 kV Insulation Tester
	FLUKE-1550C/Kit	5 kV Insulation Tester Kit
	FLUKE-1555	10 kV Insulation Tester
	FLUKE-1555/Kit	10 kV Insulation Tester Kit

Recommended Accessories

Fluke 1550C

TLK1550-RTLC
Integral Test Lead and 10 kV Clamp

FVF-Basic
FlukeView Forms Software
See page 108

IR189USB
USB-IR Cable
See page 108

CXT1555
Pelican Carrying Case

Recommended Kits

1550C/Kit includes:

- 5 kV insulation resistance tester
- Ruggedised 10 kV alligator clips with integral silicone, dual extruded leads
- Test leads with large alligator clips
- IP67 hard carrying case
- USB-IR cable
- NIST traceable certificate of calibration

1555/Kit includes:

- 10 kV insulation resistance tester
- Ruggedised 10 kV alligator clips with integral silicone, dual extruded leads
- Test leads with large alligator clips
- IP67 hard carrying case
- Logging software
- USB-IR cable
- NIST traceable certificate of calibration

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1620 Series Geo Earth Ground Testers

Fluke 1625-2 Advanced GEO Earth Ground Tester

Fluke 1623-2 Basic GEO Earth Ground Tester

N10140

Stakeless testing
The Fluke 1623 and 1625 earth ground testers are able to measure earth ground loop resistances using only clamps. With this test method, two clamps are placed around the earth ground rod and each are connected to the tester. No earth ground stakes are used at all.

With Stakeless testing, the earth ground rod does not need to be disconnected — leaving the bonded earth ground system intact during test. Gone are the days of spending time placing and connecting stakes for each earth ground rod on your system—a major time saver.

The most complete testers
The Fluke 1623-2 and 1625-2 are distinctive earth ground testers that can perform all four types of earth ground measurement:

- 3- and 4-Pole Fall of Potential (using stakes)
- 4-Pole Soil Resistivity testing (using stakes)
- Selective testing (using 1 clamp and stakes)
- Stakeless testing (using 2 clamps only)

Recommended Accessories

EI-1623
Selective/stakeless clamp set for 1623

EI-1625
Selective/stakeless clamp set for 1625

ES-162P3-2
Stake Set for 3-Pole Measurement

ES-162P4-2
Stake Set for 4-Pole Measurement

EI-162BN 320mm
Split Core Transformer for use with Fluke 1625

Recommended Kits

Fluke 1625-2 KIT
- Fluke 1625-2 tester
- Two test leads
- Four NEW and Improved Earth Ground Stakes
- Three NEW and Improved Color Coded Cable Reels
- Two clamps (one inducing, one sensing)
- Rugged carrying case

Fluke 1623-2 KIT
- Fluke 1623-2 tester
- Two test leads
- Four NEW and Improved Earth Ground Stakes
- Three NEW and Improved Color Coded Cable Reels
- Two clamps (one inducing, one sensing)
- Rugged carrying case

Specifications

Features	1625-2	1623-2	1621
One-button measurement concept	–	•	•
3-pole earth ground measurement	•	•	•
4-pole earth ground measurement	•	•	–
4-pole soil resistivity testing	•	•	–
2-pole resistance measurement AC	•	•	•
2-and 4-pole resistance measurement DC	•	–	–
Selective testing, no disconnection of ground conductor (1 clamp)	•	•	–
Stakeless testing, quick ground loop testing (2 clamps)	•	•	–
Measuring frequency 128 Hz	•	•	•
Earth impedance measurement at 55 Hz	•	–	–
Automatic frequency control (AFC), 94 Hz to 128 Hz	•	–	–
Measuring voltage switchable 20 V/48 V	•	–	–
Programmable limits, settings	•	–	•
Continuity with buzzer	•	–	–
Dust/water resistance	IP 56	IP 56	IP 40
Safety rating	CAT II 300 V	CAT II 300 V	CAT II 600 V
Two-year warranty	•	•	•

* In favourable conditions (optimal target surface, room temperature) up to 10 m (33 ft). In unfavourable conditions, such as intensive sunshine, very weak reflecting target surface, or large temperature fluctuations, measuring accuracy may deteriorate to approx. ± 0.25 mm/m (± 0.003 in/ft) for distances above 10 m (33 ft).
** In favourable conditions (optimal target surface, room temperature) up to 10 m (33 ft). In unfavourable conditions, such as intensive sunshine, very weak reflecting target surface, or large temperature fluctuations, the deviation over distances 10 m (33 ft) can increase by approx. ± 0.15 mm/m (± 0.0018 in/ft).

Ordering information

Included accessories	Models	
Test leads, alligator clips, users manual.	FLUKE-1625-2	Advanced GEO Earth Ground Tester
	FLUKE-1623-2	Basic GEO Earth Ground Tester
Test leads, alligator clips, stake/reel set 4-pole, selective/stakeless clamp set, rugged carrying case, users manual.	FLUKE-1625-2 KIT	Advanced GEO Earth Ground Tester Kit
	FLUKE-1623-2 KIT	Basic GEO Earth Ground Tester Kit

These products are for unpowered installations measuring grounding connections.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1621 Basic Earth Ground Tester

Earth ground tester for resistance measurement

The Fluke 1621 Earth Ground Tester is a rugged, easy-to-use tester for three-pole ground resistance measurements and two-pole AC resistance measurements.

Earth ground resistance is measured by installing earth ground test electrodes, and testing with the Fluke 1621. Earth ground resistance measurements are used to ensure safe operation and reduce power quality problems. With a simple user interface and intuitive functionality, the large, clear LCD display provides high visibility results in daylight or poor lighting conditions. The 1621 is lightweight making it ideal to test for lightning protection levels and periodic check-ups during routine maintenance.

- Three-pole earth resistance measurements
- Two-pole AC resistance measurements
- AC/DC voltage measurement
- Large dual backlit display
- Limit settings for automatic measurement evaluation
- CAT II 600 V
- Two-year warranty

Feature comparison on page 30.

N10140

Fluke 1630 Earth Ground Clamp Meter

The Fluke 1630 Earth Ground Clamp Meter is able to measure ground loop resistances—using the stakeless testing method. This test technique eliminates the dangerous, and time consuming activity, of disconnecting parallel grounds, as well as the process of finding suitable locations for auxiliary ground stakes. You can also perform earth ground tests in places you have not considered before: inside buildings, on power pylons or anywhere you don't have access to soil.

With the stakeless testing method, the Fluke 1630 Earth Ground Clamp Meter is placed around the earth ground rod or the connecting cable. No earth ground stakes are used at all. A known voltage is induced by one half of the clamp and the current is measured by the other half. The tester automatically determines the ground loop resistance at this grounding connection. Gone are the days of spending time placing and connecting stakes for each earth ground rod on your system—a major time saver.

- Quick and easy use—no earth ground stakes are necessary
- Large, 35 mm (1.35 in) jaw opening
- Measures ground resistance from 0.025 Ω to 1500 Ω
- Measures ground leakage current from 0.2 mA to 30 A
- High and low alarming
- Automatic self calibration
- Rugged carrying case and resistance check loop included
- Two-year warranty

N10140

Ordering information

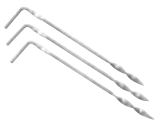
Included accessories	Models	
Two measuring leads with alligator clips, 2 m (6 ft), yellow protective holster, 9 V alkaline battery (LR61), users manual, CD.	FLUKE-1621	Basic Earth Ground Tester
1–50 m cable reel, 1–25 m cable reel, 3 earth stakes, 2 test leads, 2 alligator clips, carrying case, yellow protective holster, 9 V alkaline battery (LR61), users manual, CD.	FLUKE-1621 KIT	Basic Earth Ground Tester Kit
Rugged carrying case with belt, resistance test loop, 9 V battery, users manual.	FLUKE-1630	Earth Ground Clamp Meter

These products are for unpowered installations measuring grounding connections.

Recommended Accessories

Cable Reel 50 m
Ground/earth wire
(162.5 feet)

Cable Reel 25 m
Ground/earth wire
(81.25 feet)



ES-162P3
Stake/reel set for
3-pole measurements

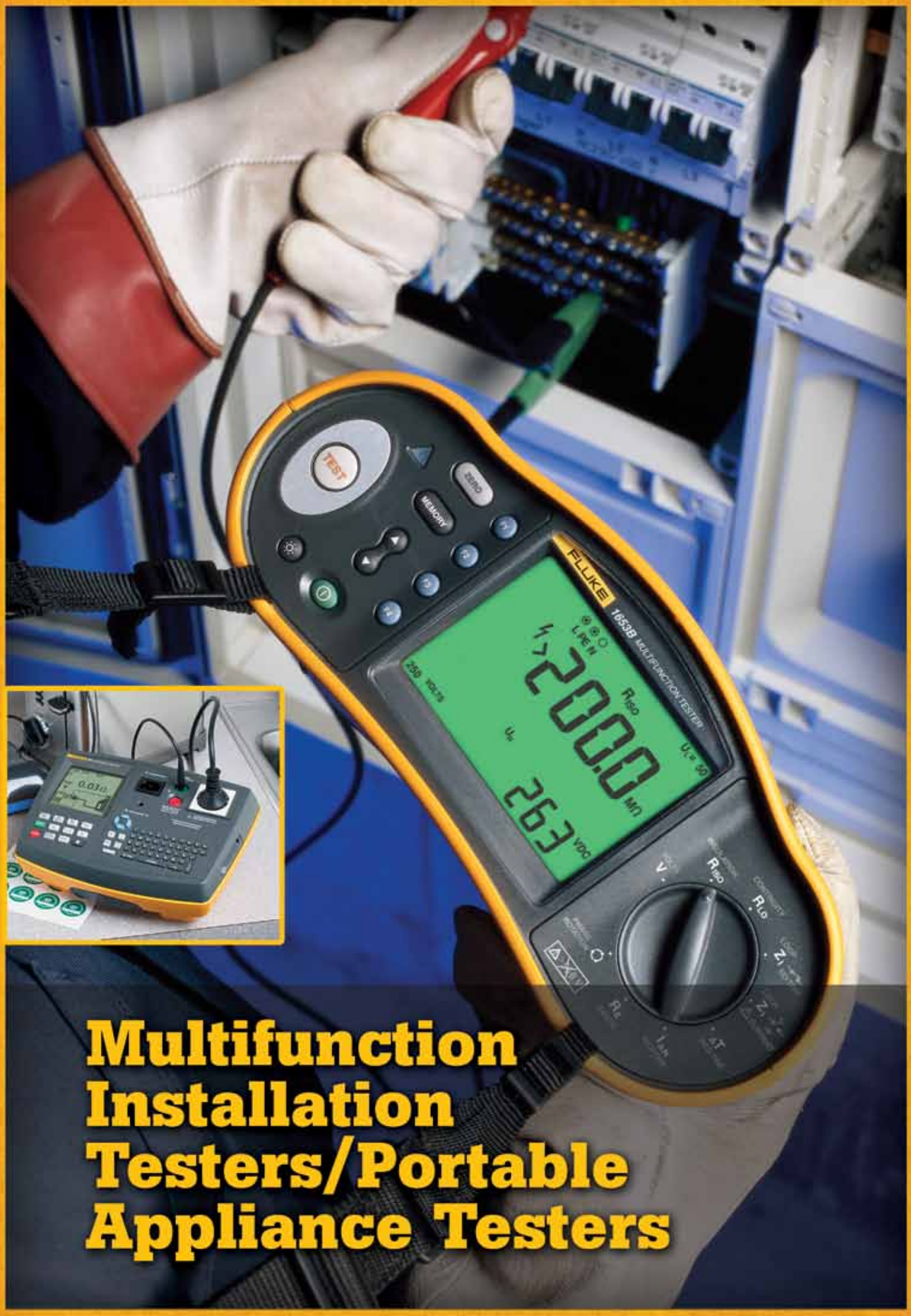
Ground/earth
stake

Recommended Kits

Fluke 1621 Kit

- Two cable reels with wire (1–50 m, 1–25 m)
- Three earth ground stakes
- One test lead (red and black 2 m)
- Two alligator clips
- Hard carrying case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb



Multifunction Installation Testers/Portable Appliance Testers

Fluke 1650 Series Multifunction Installation Testers

Fluke 1654B

Fluke 1653B

Fluke 1652C

Extra functionality, faster testing, and as rugged as ever
Safer, easier installation testing. The new Fluke 1650 Series builds on the rugged reputation of the earlier 1650 Series, only it's re-designed to meet your need for more productive test tools. With new features like the fast, high current loop test (including a non-trip test) and a variable RCD trip current setting, accuracy is even better and the test cycle even faster. With the addition of a unique Zero Adapter accessory for accurate mains test lead compensation, the 1650 Series continues to set the standard in installation testers.

The 1650 Series testers verify the safety of electrical installations in domestic, commercial and industrial applications. They can ensure that fixed wiring is safe and correctly installed to meet the requirements of IEC 60364, HD 384 and BS 7671 17th Edition wiring regulations.

1654B - The complete tester for advanced users
This is the instrument that has it all, in a word: it's complete. From all the test functions you need to in-built memory for documenting results. This makes it the complete solution for professionals, especially contractors, everyone who would want to have the best tool available and always understands (or know) how to use.

1653B - The ideal tester for professional trouble-shooters
This is the instrument that is indeed ideal for professional users due to its additional functionality. It is also ideal since even though it has high-end features, it is still easy to use – even after longer periods of non-use; because operating it is intuitive and not forgotten easily.

1652C - The everyday tester, for every electrical installer
This is the instrument that can be used every single day (day in, day out), and covers all the basic needs. It is the preferred tester for every front-line electrician/installer.

Features

Measurement Function	1652C	1653B	1654B
Voltage & Frequency	•	•	•
Insulation Resistance	•	•	•
Continuity & Resistance	•	•	•
Loop & Line Resistance	•	•	•
Loop & Line Resistance - mΩ resolution			•
Prospective Earth Fault Current (PEFC/IK) Prospective Short-Circuit current (PSC/IK)	•	•	•
RCD switching time	•	•	•
RCD tripping level	Ramp test •	Ramp test •	Ramp test •
RCD variable current	•	•	•
Automatic RCD test sequence	•	•	•
Test pulse current sensitive RCDs (Type A)	•	•	•
Test smooth DC sensitive RCDs (Type B)			•
Earth Resistance		•	•
Phase Sequence Indicator	•	•	•
Other Features			
Self-test	•	•	•
Illuminated Display	•	•	•
Memory, Interface			
Memory		•	•
Extended Memory			•
Computer Interface		•	•
Time and date (When used with FlukeView software)		•	•
Software (optional)		•	•
Included Accessories			
Hard case	•	•	•
Remote control probe	•	•	•
Zero Adapter	•	•	•

Slim Probe Design

Thanks to its slim probe with integral test button, you can safely make one-handed measurements on hard to reach points, while keeping your eyes on the panel. This remote probe is powered by the tester so always operable (does not require additional batteries).

Zero Adapter

For easy, always reliable and accurate compensation for test leads and mains cords. This adapter can be used for all different kind of mains plugs as well as test accessories like probes, alligator clips etc.

Complete Kit

All 1650 models are equipped with detachable leads that can be replaced in case of damage or loss. A durable hard case will protect your instrument in tough field conditions.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Specifications

AC Voltage Measurement

Range	Resolution	Accuracy 50 Hz – 60 Hz	Input Impedance	Overload Protection
500 V	0.1 V	± (0.8% + 3 digits)	3.3 MΩ	660 Vrms

Continuity Testing

Range (autoranging)	Resolution	Test Current	Open Circuit Voltage	Accuracy
20 Ω	00.1 Ω	> 200 mA	> 4 V	± (1.5%+3 digits)
200 Ω	0.1 Ω			
2000 Ω	1 Ω			

Insulation Resistance Measurement

Model	Test Voltage	Insulation Resistance Range	Resolution	Test Current	Accuracy
1653B / 1654B	50 V	10 kΩ to 50 MΩ	0.01 MΩ	1 mA @ 50 kΩ	± (3%+ 3 digits)
1653B / 1654B	100 V	20 kΩ to 100 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 100 kΩ	± (3%+ 3 digits)
1653B / 1654B 1653B / 1654B	250 V	20 kΩ to 200 MΩ	0.01 MΩ 0.1 MΩ	1 mA @ 250 kΩ	± (1.5%+ 3 digits)
1653B / 1654B 1652C 1653B / 1654B	500 V	20 MΩ 200 MΩ 500 MΩ	0.01 MΩ 0.1 MΩ 1 MΩ	1 mA @ 500 kΩ	± (1.5%+ 3 digits) + 10%
1653B / 1654B 1652C	1000 V	20 MΩ 200 MΩ 1000 MΩ	0.1 MΩ 1 MΩ	1 mA @ 1 MΩ	± (1.5%+ 3 digits) + 10%

Loop Impedance Measurement

Range	Resolution	Accuracy [1]
10 Ω	0.001 Ω (1654B)	Hi Current mΩ mode: ± (2 % + 15 digits)
20 Ω	0.01 Ω	No Trip mode: ± (3 % + 6 digits)
		Hi Current mode: ± (2 % + 4 digits)
200 Ω	0.1 Ω	No Trip mode: ± (3 %)
		Hi Current mode: ± (2 %)
2000 Ω	1 Ω	±6 % [2]

Notes
[1] Valid for resistance of neutral circuit <20 Ω and up to a system phase angle of 30°. Test leads must be zeroed before testing.
[2] Valid for mains voltage >200 V.

PFC. PSC Test

Range	1000A / 10kA(50kA)
Resolution and Units	1A / 0.1kA
Accuracy	Determined by accuracy of loop resistance and mains voltage measurements

Computation
Prospective Earth Fault Current (PEFC) or Prospective Short Circuit Current (PSC) determined by dividing measured mains voltage by measured loop (L-PE) resistance or line (L-N) resistance, respectively.

RCD Testing

RCD Type [6]		Model 1652C	Model 1653B	Model 1654B
AC [1]	G [2]	▪	▪	▪
AC	S [3]	▪	▪	▪
A [4]	G	▪	▪	▪
A	S	▪	▪	▪
B [5]	G			▪
B	S			▪

Notes
[1] AC – Responds to AC
[2] G – General, no delay
[3] S – Time delay
[4] A – Responds to pulsed signal
[5] B – Responds to smooth DC
[6] RCD test inhibited for V >265 AC
RCD tests permitted only if the selected current, multiplied by earthing resistance, is <50 V.

Tripping Time Test (ΔT)

Current Settings	Multiplier	Test Current Accuracy	Trip Time Accuracy
10, 30, 100, 300, 500, 1000 mA, VAR	x 1/2	+ 0% – 10%	± (1% Reading + 1 digit)
10, 30, 100 mA	X 5	+ 10% – 0%	± (1% Reading + 1 digit)

Tripping Current (Ramp) Test

Current Range	Step Size	Dwell Time		Measurement Accuracy
		Type G	Type S	
30 % to 110 % of RCD rated current [1]	10 % of I Δ N [2]	300 ms/step	0 ms/step	±5 %

Notes
[1] 30 % to 150 % for Type A Δ N >10 mA
30 % to 210 % for Type A Δ N =10 mA
20 % to 210 % for Type B
Specified trip current ranges (EN 61008-1):
50 % to 100 % for Type AC
35 % to 140 % for Type A (>10 mA)
35 % to 200 % for Type A (≤10 mA)
50 % to 200 % for Type B
[2] 5% for Type B

Earth Resistance Test (RE) – Fluke 1654B and 1653B only

Range	Resolution	Accuracy
200 Ω	0.1 Ω	± (2% + 5 digits)
2000 Ω	1 Ω	± (3.5% + 10 digits)

Battery type: Alkaline supplied. usable with 1.2 V NiCD or NiMH rechargeable batteries
Size (HxWxD): 100 mm x 250 mm x 125 mm

Weight: 1.3 kg
Three Year Warranty

Ordering information

Included accessories	Models	
6 AA Cell batteries, C1600 Hard carrying case Zero Adapter, Mains test cord, TL165X STD, Standard Test Lead Set, Padded carrying strap Quick reference guide, TP165X Remote control probe and lead and Users manual on CD-ROM	FLUKE 1652C	Multifunction Installation Tester
	FLUKE 1653B	Multifunction Installation Tester
	FLUKE 1654B	Multifunction Installation Tester

Recommended Accessories

ES165X
Earth Spike Test Kit
(For Fluke 1653B and 1654B only)
Earth Spike Test kit contents:
- Auxiliary earth probes
- Test connection leads and crocodile clips
- Purpose-made carry case

FVF-SC2
Fluke ViewForms Software (Fluke 1653B)
To address the increasing demands for reporting and documentation, Fluke presents FlukeView Forms documenting software. Download the data from the Fluke 1653B and create an easy report. The Fluke ViewForms Software also supports other Fluke tools.
See page 108.

TLK 290
Test Probe Kit
Test Probe Kit contents:
- Three flexible socket probes and a large alligator clip to be used on three phase sockets. Probes have flexible width test points that fit securely in 4 to 8 mm sockets
- CAT III 1000 V, 8 A

TP165X
Remote Control Probe
Slim probe with test button keeps your eyes on the panel while probing hard to reach points.

Fluke 6000-2 Series PAT Testers* NEW

Fluke 6200-2

Fluke 6500-2

300V CAT III AS/NZS3760-1 N10140

Perform more tests each day

The low weight, small size, one-touch solutions

The new Fluke 6200-2 and 6500-2 PAT testers have redesigned auto-test capabilities to help you increase the number of portable appliance tests completed each day. It is designed to enable you to work faster without compromising safety – yours or your customer's.

Fluke simplifies portable appliance testing

The Fluke 6200-2 offers:

- Dedicated key for each test for 'one- touch' testing
- Pre-set pass/fail levels to save time
- Large display for easy reading
- Single mains socket for appliance connection
- Separate IEC socket for easy mains/extension lead testing
- Detachable test leads for quick field replacement
- Integral carrying handle

The Fluke 6500-2 delivers all of this capability, plus:

- Integral QWERTY keyboard for rapid data entry
- Additional Compact Flash memory card capability for back-up data storage and USB port for transfer to PC
- Large backlit graphics display
- Pre-set, auto-test sequences for user convenience
- Integral site, location and description codes for faster data processing
- Memory review facility for more on-site control

* Available only in selected countries, check the Fluke website for more information.

Features

Measurement functions	6200-2	6500-2
LN Mains Volts	•	•
Outside Limits Indicators	•	•
Null out facility for earth bond lead	•	•
Protective Earth Resistance PE (200mA)	•	•
Protective Earth Resistance PE (25 A)	•	•
Insulation 500V DC	•	•
Insulation 250V DC		•
Protective Earth Conductor Current	•	•
Touch Current	•	•
RCD Test		•
Substitute leakage current	•	•
Appliance Power kVA	•	•
Appliance Load Current	•	•
Seven Segment Custom LCD	•	
Colour dot matrix display		•
Back Light	•	•
USB Flash drive port	•	•
USB Port-Printing/downloading		•
External printer output	•	•
Front Panel QWERTY Key pad		•
IEC Lead Test	•	•
Auto-testing		•
Pass / Fail Level Programmable Indicators		•
Data Storage		•
Limited Data Storage		•
Polarity Checks	•	•
Graphical Help Menu On Line		•
Programme Mode		•
Real time clock		•
Front panel results management		•
230V BS1363 Test socket / 230V Mains BS1363 input power plug	•	•
110V appliance test compatible with adapter		•

Special PAT Kit

If you need a complete PAT tester solution, a purpose made kit is available.

Separate Hard Case

The compact Fluke PAT testers are supplied with a hard carrying case that not only offers protection during transit but also includes extra storage space for accessories and other tools. They're extremely light, weighing approximately 3 kg (without case) and have integral carrying handles for extra convenience.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Specifications

The accuracy specification for the display range is defined as ± (%reading + digit counts) at 23 °C ± 5 °C, ≤ 75 % RH. Between 0 °C and 18 °C and between 28 °C and 40 °C, accuracy specifications may degrade by 0.1 x (accuracy specification) per °C. The measurement range meets the service operating errors specified in EN61557-1: 1997, EN61557-2: 1997 , EN61557-4: 1997, EN61557-6: 1997, DIN VDE404-2.

Power-on Test	
The test indicates reversed L-N, missing PE, and measures the mains voltage and frequency.	
Display Range	90 V to 264 V
Accuracy at 50 Hz	± (2% + 3 counts)
Resolution	0.1V (1V - model 6200)
Input Impedance	> 1 MΩ // 2.2 µF
Maximum Input Mains Voltage	300 V

Earth Bond Test	
Display Range	0 to 19.99 Ω
Accuracy (after Bond Test zeroing)	± (2.5% +4 counts)
Resolution	0.01Ω
Test Current	200 mA AC - 0% + 40% into 1.99Ω 25 A AC ± 20% into 25 mΩ at 230 V
Open Circuit Voltage	> 4 V AC, < 24 Vac
Bond Test zeroing	can subtract up to 1.99Ω

Insulation Test (Riso)	
Display Range	0 to 299 MΩ
Accuracy	± (5% + 2 counts) from 0.1 to 50 MΩ ± (10% + 2 counts) from 50 to 299 MΩ
Resolution	0.01 MΩ (0 to 19.99 MΩ) 0.1 MΩ (20 to 199,9 MΩ) 1 MΩ (200 to 299 MΩ)
Test Voltage	500 V DC - 0% + 10% at 500 kΩ load 250 V DC - 0% + 10% at 250 kΩ load (6500-2)
Test Current	> 1 mA at 500 kΩ load, < 15 mA at 0 Ω
Auto discharge time	< 0.5 s for 1 µF
Max. Capacitive Load	Operational up to 1 µF

RCD Test: Trip Current (6500-2 only)	
Operational Error	± 10%
Nominal	30 mA
Accuracy	± 5%

RCD Test: Trip Time (6500-2 only)	
Standard Requirement	61557 Part 6: Tolerance of rated test current 0% to +10%
Operational Error	± 10%
RCD Type	AC General-Purpose 30 mA
Display range	310 ms
Resolution	0.1 ms
Accuracy	3 ms
Trip time limit at 100% (30 mA)	300 ms
Trip time limit at 500% (150 mA)	40 ms

Touch Current Test	
Display Range	0 to 1.99 mA ac
Accuracy	± (4% + 2 counts)
Resolution	0.01 mA
Internal Resistance (via probe)	2 kΩ
Measuring method	Probe
The appliance under test is energised at mains potential.	

Substitute Leakage Current Test	
Display Range	0 to 19.99 mA ac
Accuracy	± (2.5% + 3 counts)
Resolution	0.01 mA
Test Voltage	100V AC ± 20%
Operational Error	10%

Load/Leakage Test: Load Current	
Display Range	0 to 13 A
Accuracy	± (4% + 2 counts)
Resolution	0.1 A
The appliance under test is energised at mains potential	

Load/Leakage Test: Load Power	
Display Range 230V mains UK: Austria: Germany/The Netherlands:	0.0 VA to 3.2 kVA 0.0 VA to 2.4 kVA 0.0 VA to 3.7 kVA
Accuracy	± (5% + 3 counts)
Resolution	1 VA (0 to 999 VA), 0.1 kVA (>1.0 kVA)
The appliance under test is energised at mains potential	

Load/Leakage Test: Leakage Current	
Display Range	0.25 to 19.99 mA
Accuracy	± (4% + 4 counts)
Resolution	0.01 mA
The appliance under test is energised at mains potential	

PELV Test	
Accuracy at 50 Hz	± (2% + 3 counts)
Overload protection	300 Vrms
Warning threshold	25 Vrms

Recommended Accessories

SPScan6000 Barcode Scanner
Easy to use, low current, intelligent barcode reader. SPScan6000 can be used to scan barcodes attached to curved surfaces or where actual contact with the barcode surface is difficult.

Fluke DMS Software for 1650/6000 Series

The Fluke DMS (Data Management Software) is an efficient program for administration and reporting of installation tests in compliance with EN 60364, DIN VDE 0100/0105, BS7671 17th edition wiring resulation and appliance tests in compliance with DIN VDE 0701/0702, ÖVE E 8701.

Fast professional testing mode
The professional testing mode enables you to conduct more tests faster and more efficiently than ever before.

Rapid data entry (6500-2)
With a full QWERTY keyboard, alphanumeric data entry is faster, easier and more convenient. The integral site, location and description codes further speed up data entry on site, and contribute to more efficient testing and results management.

One-touch testing
Tests are selected on the 6200-2 and 6500-2 with just one button. This greatly simplifies testing.

Built-in handle and separate hard case
The strong, lightweight enclosure features an integral carrying handle and fits neatly into the separate hard case (supplied as standard). Unlike typical PAT testers with large cumbersome integral cases, the Fluke 6200-2 and 6500-2 are easier to carry around in the field.

Ordering information

Included accessories	Models	
Test lead, Test probe, Crocodile clip, Mains cord, Hard carrying case, USB stick, USB cable and user manual	FLUKE 6200-2	PAT Tester
	FLUKE 6500-2	PAT Tester

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Electrical Testers

Fluke 9040 and 9062 Phase Rotation Indicators

Take the guesswork out of phase/motor rotation measurements

Fluke 9040

Fluke 9062

Fluke 9040 Fluke 9062

Fluke 9040 Phase Rotation Indicator

The Fluke 9040 is effective for measuring phase rotation in all areas where three-phase supplies are used to feed motors, drives and electrical systems. The Fluke 9040 is a rotary field indicator and can provide clear indication of the 3 phase via an LCD display and the phase rotation direction to determine correct connections. It allows rapid determination of phase sequence and has a voltage (up to 700 V) and frequency range suitable for commercial and industrial applications. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

Fluke 9062 Phase Rotation Indicator

The unique Fluke 9062 provides rotary field and motor rotation indication with the benefits of contact-less detection. Purpose made for commercial and industrial environments, the Fluke 9062 provides rapid indication of 3 phase rotation using test leads supplied or can be used to determine motor rotation on synchronous and asynchronous 3 phase motors. The contact-less detection is ideal for use on motors where the shaft is not visible. Test probes supplied with the instrument have a variable clamping range for safe contact, especially in industrial sockets.

Fluke 9062 Applications

Determine the presence of phase sequence of multiphase electrical supplies.

Determine the rotation of running motors simply by placing the instrument on the motor casing.

Check the correct rotation of motors prior to connection.

Recommended Accessories

TLK290 **TLK291**

C25

See page 99

Features

	9040	9062
3 phase indication	Via LCD	Via LED
Indication of phase rotation	•	•
Indication of motor rotation direction		•
Contact free determination of the rotation direction of running motors		•
Clear LCD display	•	
No battery required	•	

Specifications

	9040	9062
Voltage range	40 - 700 V	Up to 400 V
Phase display	-	120 - 400 V AC
Frequency range	15 - 400 Hz	2-400 Hz
Operating time	Continuous	Continuous

Ordering information

Included accessories	Models	
Fluke 9040: Alligator clips - black (3) Standard test probes - black (3) Flexible test probes - black (3) **Fluke 9062:** Alligator clips - black (3) Flexible test probes - black (3) Test leads - black (3)	FLUKE 9040	Phase Rotation Indicator
	FLUKE 9062	Motor and Phase Rotation Indicator

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke T5 Series Electrical Testers and VoltAlert™ family

Fluke T5-600

Fluke T5-1000

N10140

Fluke LVD2

Fluke 1AC-II

N10140

Fluke T5 Series Electrical Testers

The Fluke T5 Electrical Testers let you check voltage, continuity and current with one compact tool. With the T5, all you have to do is select volts, ohms, or current and the tester does the rest. OpenJaw™ current lets you check current up to 100A – without breaking the circuit. Its tough test leads stow neatly in the back of the tester, making it easy to tote the T5 in your tool pouch. Detachable SlimReach™ test probes are customised for national electrical standards. The test leads accept optional accessories such as clips and specialty probes. The optional H5 holster lets you clip the T5 onto your belt. Available in 600V and 1000V models.

Fluke T5 Voltage, Continuity and Current Testers

- Excellent front-line troubleshooting and measurement tool
- Available in 600 V and 1000 V models
- Digital display
- OpenJaw™ current measurement
- Rotary switch selects volts, amps and ohms functions
- Heavy-duty test leads

Fluke VoltAlert™ Family

The next generation VoltAlert™ AC non-contact voltage testers from Fluke are easy to use. Electricians, maintenance, service and safety personnel, and homeowners can quickly test for energised circuits in the workplace or at home. Certified up to CAT IV 1000 V.

Specifications

Functions	T5-1000	T5-600
Measure AC/DC voltage	1000 V	600 V
Measure AC current (average)	100 A	100 A
Measure continuity	< 25 Ω	< 25 Ω
Measure resistance	1000 Ω	1000 Ω
DC polarity indicator	Yes	Yes
Detachable probe tips with optional probe tips styles	Yes	Yes
Digital display	Yes	Yes
Safety rating	1000 V Overvoltage CAT III	600 V Overvoltage CAT III
Warranty	Two-year	Two-year

*Voltage levels will vary depending on country of intended use.

Functions	1AC-II	LVD2
Voltage range	90 V AC to1000 V AC	90 V AC to 600 V AC
Audible alert	•	•
Flashlight	–	•
On/Off	•	•
Safety rating	CAT IV 1000 V	CAT IV 600 V

Ordering information

Included accessories	Models	
The T5-1000 and T5-600 come with detachable probes and instruction sheet.	T5-1000	1000 V Voltage, Continuity and Current Tester
	T5-600	600 V Voltage, Continuity and Current Tester
	T5-H5-1AC KIT	Voltage, Continuity and Current Tester Kit
	1AC-II	VoltAlert™ Voltage Detector
	LVD2	Volt Light

Recommended Accessories

H5
Electrical Tester Holster
See page 99

T5-RLS
T5 Replacement Test Leads

T5 Kit
Starter Kit
See page 100

C520A
Premium Leather Holster
See page 99

Recommended Kits

T5-1000 Tester Kit
- T5-1000 Voltage Electrical Tester
- 2AC VoltAlert™ Voltage Detector
- H5 Holster

Fluke 2042 Cable Locator

Transmitter

Receiver

The Fluke 2042 is a professional general purpose cable locator. It is ideal for tracing cables in walls and underground, locating fuses/breakers on final circuits and locating interruptions and short circuits in cables and electrical floor heating systems.

- For all applications (live or dead cables) without additional instruments
- Set includes a transmitter and a receiver
- Proven digitally coded sender signal guarantees clear signal identification
- Transmitter with LCD-display for transmitting level, transmitting code and external voltage
- Receiver with a backlight LCD-display for level of receiving signal, code of receiving signal and live voltage indication
- Switchable acoustic receiving signal

For more information, go to **www.fluke.com/my/2042**

Fluke T Series Voltage and Continuity Testers

NEW

Fluke T150

Fluke T130

Fluke T110

Fluke T90

Rugged, high-quality testers for fast test results the way you need them

Our new family of Two-Pole Voltage Testers are built with state-of-the art measurement and safety technology. These testers offer everything you expect from Fluke, and a little bit more.

- Rugged, high-quality construction is built to last. This includes a heavy duty molded case, a thicker cord with wear indicator, sturdy battery case, and well fitting and durable probe protector.
- Fast test results the way you need them, with large, easy-to-use buttons, bright backlights, and clear audible and physical indicators designed for any work situation.
- Enhanced ergonomic design feels good in your hand, is easy to use (even with gloves on) and quick, secure probe docking.
- Compliant with regulation HSE GS 38 (tip caps) and IEC EN 61243-3: 2010

Fluke T90

Fluke T110, T130, T150

N10140

Recommended Accessories

Fluke C150
See page 99

Fluke H15
See page 99

Features

	T90	T110	T130	T150
Backlit LED indicator	•	•	•	•
Backlit LCD Digital Display			LCD	LCD
Continuity test – visual results	•	•	•	•
Continuity test – audible results	•	• with on/off	• with on/off	• with on/off
Vibratory indicator under load		• with on/off	• with on/off	• with on/off
Display Hold			•	•
Voltage Test	•	•	•	•
Indication of polarity	•	•	•	•
Resistance measurement				•
Switchable Load		•	•	•
Single pole test for phase detection	•	•	•	•
Rotary field indicator		•	•	•
Probe tip protection	•	•	•	•
Voltage display with discharged batteries	•	•	•	•
Electrical torch function		•	•	•
Wear indicator test lead wire	•	•	•	•

*Voltage levels will vary depending on country of intended use.

Specifications

	T90	T110	T130	T150
Voltage AC/DC	12V – 690V	12V – 690V	6V – 690V	6 V – 690 V
Continuity	0 – 400 kΩ			
Frequency	0 – 60 Hz	0 – 400 Hz		
Phase rotation	–	100 V – 690 V		
Resistance measurement	–	–	–	Up to 1999 Ω
Response time (LED ladders)	< 0.1 s			
200 kΩ input impedance	Current draw 3,5 mA @ 690 V Current draw 1,15 mA @ 230 V			
7k Ω input impedance (with load buttons pressed)	–	current draw 30 mA @ 230 V		
Safety rating	CAT II 690V CAT III 600V	CAT III 690V CAT IV 600V		
IP rating	**IP54**	**IP64**	**IP64**	**IP64**

*Voltage levels will vary depending on country of intended use.

Battery type: Alkaline supplied. usable with 1.2 V NiCD or NiMH rechargeable batteries
Size (HxWxD): 100 mm x 250 mm x 125 mm

Weight: 1.3 kg
Three Year Warranty

Included accessories	Models	
Two 2-AA batteries and instruction sheet	FLUKE-T90	Voltage/Continuity Tester
	FLUKE-T110	Voltage/Continuity Tester with Switchable Load
	FLUKE-T130	Voltage/Continuity Tester with LCD, Switchable Load
	FLUKE-T150	Voltage/Continuity Tester with LCD, Ohms, Switchable Load

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Indoor Air Quality Tools

Fluke 975 AirMeter™

Simple, one-touch air velocity

Fluke 975

The Fluke 975 AirMeter™ combines five powerful air quality tools into one. Identify and diagnose indoor air quality issues quickly and easily with one rugged, handheld device.

- Simultaneously measures, logs and displays temperature, humidity, CO_2 and CO on a bright, backlit LCD display
- % of outside air calculation
- One-touch air flow and velocity with available probe*
- Dew point and wet bulb temperature
- CO_2 and CO field calibration feature
- Min/Max/Avg on all measured and calculated readings
- Audible and visual threshold alarms
- Extensive discrete or continuous data logging capacity, downloadable to PC via USB interface
- Includes NIST-traceable certificate of calibration
- Automatically compensates for barometric pressure changes
- Two-year warranty

*Included with Fluke 975V, optional with Fluke 975.

N10140

Fluke 922

Fluke 922 Airflow Meter/Micromanometer

Make airflow measurements easy by combining differential pressure, air flow and velocity into a single, rugged meter. Used with any pitot tube, the Fluke 922 is the perfect entry point for technicians measuring air flow for the first time, yet powerful enough for advanced users.

- Measures differential and static pressure, air velocity and flow readings
- User-defined duct shape and size for maximum airflow accuracy
- Bright, backlit display
- Min/Max/Avg/Hold functions
- Auto power off

N10140

Specifications

975 features	Range	Display resolution	Accuracy
Temperature	-20 °C to 50 °C (-5 °F to 122 °F)	0.1 °C (0.1 °F)	± 0.9 °C/± 1.62 °F from 40 °C to 60 °C ± 0.5 °C/ ± 1.00 °F from 5 °C to 40 °C ± 1.1 °C/± 1.98 °F from -20 °C to 5 °C
Relative humidity	10 % to 90 % RH non-condensing	1 %	± 2 % RH (10 % RH to 90 % RH)
Air velocity	50.0 fpm to 3000 fpm 0.25 m/sec to 15 m/sec	1 fpm (0.005 m/sec)	± 4 % or 4 fpm* ± 4 % or 0.02 m/sec* whichever is greater * Accuracy specification only valid for velocity readings above 50 fpm
CO_2	0 ppm to 5000 ppm	1 ppm	Warm up time 1 min (5 minutes for full specification) 2.75 % + 75 ppm
CO	0 ppm to 500 ppm	1 ppm	± 5 % or ± 3 ppm, whichever is greater, @ 20 °C and 50 % RH

922 features	Range	Accuracy
Air pressure	± 4000 Pascals / ± 16 in H20 / ± 400 mm H20 / ± 40 mbar / ± 0.6 PSI	± 1 % + 1 Pascal / ± 1 % + 0.01 in H20 / ± 1 % + 0.1 mm H20 / ± 1 % + 0.01 mbar / ± 1 % + 0.0001 PSI
Air velocity	250 fpm to 16,000 fpm (1 to 80 m/s)	± 2.5 % of reading at 2000 fpm (10.00 m/s)
Air flow (volume)	0 to 99,999 cfm; 0 to 99,999 m 3/hr; 0 to 99,999 l/s	Accuracy is a function of velocity and duct size
Temperature	0 °C to 50 °C (32 °F to 122 °F)	0.1 °C (0.1 °F)
Data storage	99 readings	
Warranty	Two-year	
Power	Four AA batteries	

Ordering information

Included accessories	Models	
Calibration cap, air velocity probe (Fluke 975V only), FlukeView® Forms software, power adapter, international power plugs, hard carrying case, three AA alkaline batteries, users manual with safety information.	FLUKE-975	AirMeter™
	FLUKE-975V	AirMeter™ with Velocity
Two rubber hoses, soft carrying case, four AA alkaline batteries 1.5 V, users manual.	FLUKE-922	Airflow Meter
12 inch pitot tube, two rubber hoses, ToolPak Magnetic Meter Hanging Kit, hard carrying case, four AA alkaline batteries 1.5 V, users manual.	FLUKE-922/KIT	Airflow Meter Kit

Recommended Accessories

Fluke 975VP
AirMeter Velocity Probe for use with Fluke 975 AirMeter.

Recommended Kits

Fluke 975V
- 975 AirMeter™
- Calibration cap
- Air velocity probe
- FlukeView® Forms software
- Power adapter
- International power plugs
- Hard carrying case
- Three AA alkaline batteries
- Users manual with safety information

Fluke 922/Kit
- 922 Airflow meter
- 12 inch pitot tube
- Two rubber hoses
- TPak magnetic strip
- TPak strap, 9 inches
- TPak latch tab
- Four AA 1.5 V alkaline batteries
- Users manual
- Hard carrying case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Indoor Air Quality Tools

Tools to help you maintain good IAQ

Fluke 971

N10140

Fluke 971 Temperature Humidity Meter

Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971. It is invaluable for facility maintenance and utility technicians, HVAC-service contractors, and specialists who assess indoor air quality (IAQ). Lightweight and easy to hold, it's the perfect tool for monitoring problem areas. With a rugged holster and protected sensor, the Fluke 971 is built to perform and made to last.

Features:

- New and improved digital sensor for faster response times
- Backlit dual display of humidity and temperature
- Measures dew point and wet bulb temperatures
- 99 record storage capacity
- Ergonomic design with belt clip and protective holster
- Compact and lightweight at 188 g (6.6 oz)
- Temperature range from –20 °C to 60 °C (–4 °F to 140 °F)
- Relative humidity from 5 % to 95 %
- Min/Max/Avg/Hold functions
- Low battery indicator
- One-year warranty

Fluke 985

N10140

Fluke 985 Airborne Particle Counter

The new Fluke 985 Particle Counter is ideal for troubleshooting and monitoring indoor air quality issues and verifying HVAC filter performance in critical locations. With its easy to read and fully configurable channel display, lightweight yet rugged form and highly accurate measurements, the Fluke 985 is the perfect tool for the maintenance, HVAC, and IAQ professional.

- **Six channels and particle size range of 0.3 µm to 10.0 µm:** Assures accurate measurements even for critical locations requiring ISO Class 5 – 9 certification.
- **Ultra-lightweight and ergonomic design:** Promises easy single-hand operation in tight or awkward spaces with less operator fatigue
- **Long battery life:** Ten hours of standard-use battery life to last a full work day
- **Large 3.5 inch QVGC colour display:** Easy navigation and viewing with the intuitive icons and large font options
- **10,000 record storage:** Quick access to historical data
- **On-screen data presentation:** Data can be viewed in a traditional tabular or trend graph view at the user's preference
- **Personalised setting and configurations:** Customisable settings for the display, sample methods, and alarm settings for sample count
- **Data export options:** Download data to a PC using a USB memory stick, USB cable or Ethernet connection. No special software is required to download or view data
- **Option password control:** Confirms security when required
- **USB/Ethernet charge cradle:** Assures device is always ready to go when needed

Specialty Models

Fluke RLD2 UV Refrigerant Leak Detector Flashlight

Leak detection made easy. The compact, easy-to-use, RLD2 UV flashlight uncovers refrigerant leaks instantly. Use the UV light to find the leakage area, then, use the laser pointer to pinpoint the exact leak location. With 100,000 hours of life, and four operating modes, this versatile leak detector is a must have for HVAC technicians.

- Six UV LEDs (395 nm wavelength) detect leak detection dyes
- Laser pointer clearly locates centre of the UV field for accuracy
- Three LED flashlight with 100,000 hour LED life
- Operating temperature 0 °C to 50 °C
- Four operating modes: flashlight, UV light, laser light, UV/laser light combination
- Convenient detachable key chain carabiner and AAA battery included

CO-220 Carbon Monoxide Meter

- Stand-alone CO meter that does not require a digital multimeter
- Large backlit LCD displays CO levels from 0 ppm to 999 ppm
- Beeper triggers with increasing frequency as CO levels rise
- MAX hold function stores and displays the maximum CO level
- Automatic sensor zeroing and self-test upon startup

CO-205 Aspirator Kit

The CO-205 flue gas sampling accessory kit includes:

- Stainless steel sampling tube
- Aspirator to draw flue sample
- Replaceable particulate filter
- Nose cap for connection to the Fluke CO-220

Ordering information

Included accessories	Models	
Certificate of Calibration (NIST traceable), cradle for charging and convenient USB and Ethernet communications, ethernet cable, USB cable, power supply, zero count inlet filter, filter adapter, sample inlet protective cap, hard case, and manual.	FLUKE-985	Airborne Particle Counter
Four AAA alkaline batteries, users manual.	FLUKE-971	Temperature Humidity Meter
	FLUKE-CO-205	Aspirator Kit
	FLUKE-CO-220	Carbon Monoxide Meter
	FLUKE-RLD2	Refrigerant Leak Detector Flashlight

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Power Quality Analysers

Power Quality Tools

For industrial and commercial applications

Basic measurements	Application use	Single phase			Three phase					
		VR1710	345	43B	430 II	1730	1735	1740	1750	1760
RMS Voltage	Detailed RMS trending shows how connected loads behave.	•	•	•	•	•	•	•	•	•
RMS Current			•	•	•	•	•	•	•	•
Energy studies										
Measure V, I, kW, Cos/DPF, kWhr	Get detailed power and energy consumption profiles during energy audits and pinpoint savings opportunities.		•	•	•	•	•	•	•	•
Measure MIN/MAX and AVG values			•	•	•	•	•	•	•	•
10 day logging			•	•	•	•	•	•	•	•
Energy aggregation			•	•	•	•	•	•	•	•
Utility meter pulse input					•					
Energy Loss (Eff. kW, Reactive kVAR, Unbalance kVAR, Distortion kVAR, Neutral kVAR)			•	•	•		•	•	•	•
Energy loss calculator					•					
Basic harmonics study										
THD measurement (V & I)	Discover the source of distortion in your installation, so that you can filter those loads or move them to separate circuits.	•	•	•	•	•	•	•	•	•
Harmonics 1 to 25 for V & I		•	•	•	•		•	• (not 1743)	•	•
Tabular values					•		•	•	•	•
Neutral current measurement					•		•	•	•	•
Crest factor			•	•	•			•	•	•
Advanced harmonics study										
Full harmonic spectrum	If distorting loads are causing problems in your installation, you need comprehensive data to intentify the source and create a solution.		•	•	•		•	•	•	•
Power harmonics			•	•	•				•	•
Harmonics 1 to 50 and DC			•	•	•			• (no DC) (not 1743)	•	•
k-factor				•	•		•		•	•
%Fundamental and %RMS			•	•	•			•	•	•
Basic Industrial PQ Troubleshooting										
Oscilloscope function	When troubleshooting in the field, graphical data enables you to trace the source of the problem at hand.		•	•	•		•		•	•
Voltage dips and swells		•		•	•		•	•	•	•
Phasor diagram					•				•	•
Trend recording		•	•	•	•	•			•	•
Inrush current			•	•	•				•	•
Advanced industrial PQ troubleshooting										
Comprehensive logging capability	Complex installations often require a deeper dive into measurement data. Multiple loads may be interacting randomly to cause a single problem.		•	•	•	•	•	•	•	•
Transient capture		•		•	•				•	•
Flicker		•			•			•	•	•
EN50160 analysis					•			•	•	•
Complex System interaction event capture (manual threshold setting)										•
Random/variable system event capture (Adaptive threshold setting)									•	
400 Hz					• (only 437-II)					
Utility PQ benchmarking										
Phase sequence components	Before you install sensitive loads, make sure you understand the existing quality of power delivered by your utility. Comparing benchmarks over time can help pinpoint potential areas of concern.				•				•	•
Interharmonics					•			•	•	•
Mains signaling					•			•	•	•
IEC61000-4-30 Class A					•					•
Software										
Power Log	To make use of the power data you collect, you need software that can help analyse your findings and share them with equipment providers and plant management.	•	•		•		•			
PQ Log								•		
Power Analyse									•	
PQ Analyse										•
FlukeView Forms					•					
FSD card (max 32 GB)					8 GB				8 GB	
Fluke Energy Analysis						•				

Fluke 345 Power Quality Clamp Meter

The ideal meter to troubleshoot modern electrical loads

Fluke 345

The Fluke 345 is more than a Power Meter. Combining the functions of a clamp meter, oscilloscope, data logger and digital power meter into one handy device. The Fluke 345 is ideal for working with variable frequency motor drives, high efficiency lighting and other loads using switching electronics.

- **AC/DC current:** Clamp-on measurement of AC current up to 1400 A rms and DC current up to 2000 A without breaking the circuit
- **Highest safety rating:** CAT IV 600 V power analyser is rated for use at the service entrance
- **Accurate in noisy environments:** Clamp meter performs even with distorted waveforms present on electronic loads with low-pass filter
- **Data logging:** Identify intermittent faults by logging any power quality parameter for minutes, or over a month, including harmonics
- **Troubleshoot harmonics:** Analyse and log harmonics digitally or graphically
- **Inrush current:** Capture and analyse nuisance tripping from 3 seconds to 300 seconds
- **View graphs and generate reports:** Use power analyser with included Power Log software

600V CAT III N10140

Fluke 43B Power Quality Analyser

Fluke 43B

The Fluke 43B Power Quality Analyser performs the measurements you need to maintain power systems, troubleshoot power problems, and diagnose equipment failures. The 43B has 20 storage locations and can store data as well as screens.

- **Basic measurements:** Voltage, current and power harmonics up to 51st, THD
- **Oscillioscope function:** View voltage and current waveforms
- **Transients:** Capture up to 40 voltage transients and waveform events
- **Detailed event capture:** Cursors give time and date of sags and swells
- **FlukeView® software:** Analysis and reporting, supplied with USB connection lead
- **Warranty:** Three-years for analyser, one-year for accessories

Electrical Safety 600 V CAT III CE C SP US N10140

Ordering information

Included accessories	Models	
Test leads, alligator clips, test probes, Power Log software, USB cable, international AC adapter/battery eliminator, soft carrying case, users manual, multi-language manual on CD.	FLUKE-345	Clamp-On Power Meter
Voltage and current probes, FlukeView® software, power quality instructional CD, USB interface cable, line voltage adapter/battery charger, hard case, users manual.	FLUKE-43B	Power Quality Analyser
USB cable, Power Log software CD, universal power cord adapters.	FLUKE-VR1710	Voltage Quality Recorder

Recommended Accessories
Fluke 345

TP220
Industrial Test Probes
See page 102

AC220
Alligator Clips
See page 102

TLK291
Fused Test Probe Set

C550
Tool Bag
See page 99

Fluke VR1710 Power Quality Recorder

- **Fast and easy recording of voltage trends, dropouts and power quality:** Easily pinpoint the root cause of single phase voltage problems
- **Extremely easy to use:** Plugs directly into the mains power socket and capture data
- **Quickly see what happened and when:** Min, Max, and Average RMS values (1/4 cycle) with time stamp, transient display (>100 µs) with time stamp
- **Easily identify problems:** Power quality or equipment related Flicker recording to EN 61000-4-15, individual harmonic and THD values with trends
- **Includes PowerLog software:** For quick download, analysis and automatic reporting
- **Save time:** Generate power quality reports automatically with pre-set templates

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 430-II Series Three-Phase Power Quality Analysers

Fluke 437-II

Fluke 435-II Fluke 434-II

On all inputs

The new Fluke 434-II, 435-II and 437-II Power Quality Analysers help locate, predict, prevent and troubleshoot power quality problems in three and single-phase power distribution systems. Additionally, the Fluke-patented energy loss algorithm, Unified Power Measurement, measures, quantifies and monitises energy losses due to harmonics and unbalance issues, allowing the user to pinpoint the origin of energy waste within a system.

- **Patented energy loss management:** Classic active and reactive power measurements unbalance and harmonic power and energy are quantified to pinpoint true system energy losses
- **Realtime PowerWave data capture:** Capture fast rms data, show single cycle rms value to characterise electrical system dynamics (generator start-ups, UPS switching etc.)
- **Highest safety rating in the industry:** CAT IV 600 V/ CAT III 1000 V rated for use at the service entrance
- **Automatic transient mode:** Capture 200 kHz waveform data on all phases simultaneously up to 6 kV
- **Fully Class-A compliant:** Conduct tests according to the stringent international IEC 61000-4-30 Class-A standard intervals for 435-II and 437-II
- **Troubleshoot real-time:** Analyse the trends using the cursors and zoom tools—even while background recording continues
- **Measure all three phases and neutral:** With included four iFlex flexible current probes
- **Monitise energy loss caused by power quality issues**

Energy loss calculator

Useful kilowatts (power available) – Effective kW
Reactive (unusable) power – Reactive kvar
Kilowatts made unusable by unbalance issues – Unbalance kVA
Kilowatts made unusable by harmonics – Distortion kVA
Neutral Current – Neutral
Total cost of wasted kilowatt hours

Features

Features	434-II	435-II	437-II
Measures voltage, current, dips, swells, interruptions, harmonics, power, energy loss monitisation, frequency, inrush and power inverter efficiency	•	•	•
Flicker	–	•	•
Transients	–	•	•
Mains signaling	–	•	•
Power wave	–	•	•
Event waveform capture	–	•	•
400 Hz	–	–	•
C1740 Soft Case	•	•	–
C437-II Hard Case with rollers	–	–	•
SD card (Max 32 GB)	8 GB	8 GB	8 GB

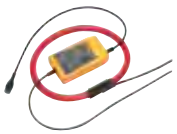
Battery life: 7 hours operating time per charge on Li-ion battery pack
Safety: EN61010-1 (2nd edition) pollution degree 2; 1000 V CAT III / 600 V CAT IV
Case: Rugged, shock proof with integrated protective holster, IP51 (drip and dust proof)
Shock: 30 g; Vibration: 3g according to MIL-PRF-28800F Class 2
Operating temperature: 0°C to +50°C
Size (HxWxD): 265 mm x 190 mm x 70 mm;
Weight: 2.1 kg
Three Years Warranty

Ordering information (basic versions do not include current probes)

Included accessories	Models	
Four thin flexible current probes (i430-TF), five test leads and clips, battery charger, Power Log software, USB cable, colour localisation set, soft carrying case, 8 GB SD memory card, users manual on CD.	FLUKE-434-II	Three-Phase Energy Analyzer
	FLUKE-435-II	Three-Phase Power Quality and Energy Analyzer
Four thin flexible current probes (i430-TF), five test leads and clips, battery charger, Power Log software, USB cable, colour localisation set, hard carrying case with wheels, 8GB SD memory card, users manual on CD.	FLUKE-437-II	400 Hz Three-Phase Power Quality and Energy Analyzer

Recommended Accessories

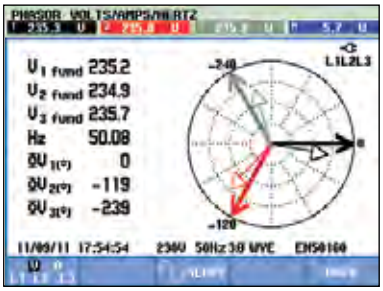
I5sPQ3
3 pack of 5 A precision current clamps



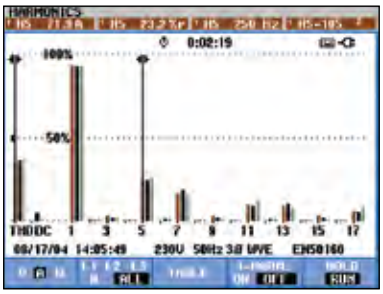
i6000s FLEX
AC Current Clamp
See page 105

C437-II
Water-tight hard case with rollers

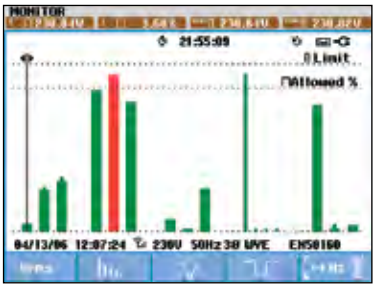
GPS430
GPS time synchronisation module



Phasor diagram.



Track harmonics up to the 50th, and measure and record THD in accordance with IEC61000-4-7 requirements.



The System-Monitor overview gives instant insight into whether the voltage, harmonics, flicker, frequency and the number of dips and swells fall outside the set limits. A detailed list is given of all events falling outside the set limits.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1730 Three-Phase Electrical Energy Logger

NEW

Fluke 1730

The new Fluke 1730 Three-Phase Electrical Energy logger introduces a new simplicity to discovering sources of electrical energy waste. Discover when and where energy in your facility is being consumed; from the service entrance to individual circuits.

Profiling energy usage across your facility helps you identify opportunities for energy savings, and provides you with the data you need to act on them.

- **Comprehensive logging:** all measured values are automatically logged and can be reviewed during logging and before downloading for on-the-go analysis. More than 20 separate logging sessions can be stored on the instrument.
- **Complete 'in-the-field' setup through the front panel:** no need to return to the workshop for download and setup or to take a computer to the electrical panel.
- **Highest safety rating in the industry:** 600 V CAT IV/1000 V CAT III rated for use at the service entrance and downstream.

Specifications

General specifications	
Colour LCD display	4.3-inch active matrix TFT, 480 pixels x 272 pixels, resistive touch panel
Warranty	1730 and power supply: Two years (battery not included) Accessories: One year Calibration cycle: Two years
Dimensions	1730: 19.8cm x 16.7cm x 5.5cm (7.8in x 6.6in x 2.2in) Power supply: 13.0cm x 13.0cm x 4.5cm (5.1in x 5.1in x 1.8in) 1730 with power supply attached: 19.8cm x 16.7cm x 9cm (7.8in x 6.6in x 3.5in)
Weight	1730: 1.1kg (2.5lb) Power supply: 400g (0.9lb)
External protection	Holster, Kensington lock slot

Recommended Accessories

Fluke 1730

i1730-flex 3000/3pk
3000A 24 inch, 3 pack

i1730-flex 6000/3pk
6000A 36 inch, 3 pack

1730-Hanger
Hanging strap

i40s-EL/3pk
40A Clamp-on Current Transformer 3 pack

C1730
Soft case

Fluke 1735 Three-Phase Power Logger

Fluke 1735

The Fluke 1735 Three-Phase Power Logger is the ideal electrician or technician's tool for conducting energy studies and basic power quality logging. Set up the 1735 in seconds, with the included flexible current probes and colour display. The 1735 logs most electrical power parameters and harmonics and captures voltage events.

- **Ideal for field operation:** Compact, rugged instrument; easy to use, quickly confirm instrument setup with colour display of waveforms and trends
- **Full system electrical measurement capability:** Three phases and neutral with included four flexible current probes
- **Prove the benefit of efficiency improvements:** Record power and associated parameters for up to 45 days. Monitor maximum power demand over user-defined averaging periods
- **Check the power quality effects energy saving devices:** Measure harmonics and distortion caused by loads and improve reliability by capturing voltage dips and swells from load switching
- **Easy PC connectivity and operation:** USB interface for plug and play operation; download, view graphs and automatically generate reports with included Power Log software

Recommended Accessories

Fluke 1735

I 1A/10A
Mini Current Clamp, PQ4

I 5A/50A
Mini Current Clamp, PQ4

I 20A/200A
Mini Current Clamp, PQ4

FS3000A/6000A TF-4
36 in, 4 phase Thin Flex

Ordering information

Included accessories	Models	
3 x i1730-flex 1500 (iFlex flexible current probe 1500A 12 inch), 2 x 1730TL0.1M (Test lead; straight plug; 0.1 m; silicon; red), 3PHVL-1730 (Cable Assembly, Voltage test lead 3-Phase+N), 1730-TL2M (Test lead, straight plug; 2 m; PVC red), C1730 Soft case, WC100 Color localisation set, 4 x Dolphin clamps, Basic model: excl. current probes	FLUKE-1730/BASIC	Three-Phase Electrical Energy Logger
	FLUKE-1730	Three-Phase Electrical Energy Logger
Four flexible current probes (15 A/150 A/3000 A), Power Log software, voltage leads and clips, colour localisation set, PC interface cable, international AC adapter (115 V/230 V, 50 Hz/60 Hz), soft carrying case, users manual and multi-language manual on CD.	FLUKE-1735	Three-Phase Power Logger

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1740 Series Three-Phase Power Quality Loggers Memobox

Fluke 1743

Fluke 1744

The Fluke 1740 Series Three-Phase Power Quality Loggers are instruments for technicians who troubleshoot and analyse power distribution systems. The included Power Quality Log software quickly assesses the quality of power at the service entrance, substation, or at the load, according to the latest EN50160 standard.

- **Plug and play:** Setup in minutes with automatic current probe detection and powering
- **Installs inside the cabinet:** Compact, fully-insulated housing and accessories fit easily in tight spaces, next to live power
- **Determines the root cause:** Included PQ Log software quickly analyses trends, creates statistical summaries, and generates detailed graphs and tables
- **Measure voltage with premium accuracy:** IEC61000-4-30 Class-A compliant voltage accuracy (0.1 %)

Fluke 1745

600V CAT III

N10140

Fluke 1740 Series Models

Fluke 1743: IP65 waterproof monitor for logging the most common power parameters including V, A, W, VA, VAR, PF, energy, flicker, voltage events and THD.

Fluke 1744: Same features at the 1743, in addition to common power parameters, the Fluke 1744 also measures voltage and current harmonics, interharmonics, mains signaling, unbalance, and frequency.

Fluke 1745: Advanced IP50 power quality logger with the same measurement capability as the 1744, plus real-time LCD, five hour UPS.

Fluke 1750 Three-Phase Power Recorder

Fluke 1750

1000 V CAT III
600 V CAT IV

N10140

- **Power quality that meets the standard:** All measurements comply with IEC61000-4-30 standards for correct evaluation of all measured values including voltage, current, power, harmonics, flicker etc.
- **Quick and reliable configuration:** PDA wireless "front panel interface" provides a window into what the instrument is recording, enabling quick and reliable configuration even in awkward test locations
- **Threshold-free set up:** Apply thresholds after data is collected with Fluke Power Analyze Software—no need to worry about missed information due to incorrect setups
- **Captures everything:** Cross-channel and current triggering capture every measurement, on every channel, every time
- **Measure every parameter:** Voltage and current on three phases, neutral and ground

Specifications

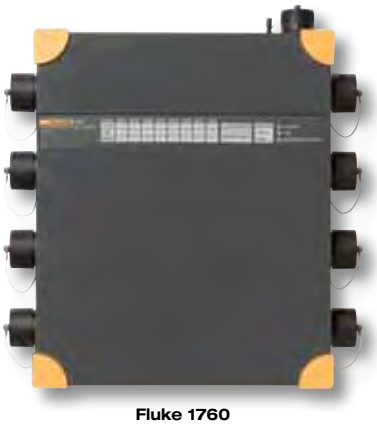
Features	1743/1744	1745	1750
Measures common power parameters: V, A, W, VA, VAR, PF, energy, flicker, voltage events, and THD	•	•	•
Measures voltage and current harmonics to the 50th, unbalance, and mains signaling	•	•	•
Transient capture	–	–	•
PDA support	–	–	•
GPS clock synchronization	–	–	–
UPS ride through	3s	>5 hours	5 min per interruption, 60 min total
Dimensions	170 mm x 125 mm x 55 mm (6.9 in x 5.1 in x 2.2 in)	282 mm x 216 mm x 74 mm (11.5 in x 8.8 in x 3 in)	215 mm x 310 mm x 35 mm (8.5 in x 12.2 in x 3.5 in)
Weight (approx.)	0.9 kg (2 lb)	1.4 kg (3 lb)	6.3 kg (14 lb)

Ordering information

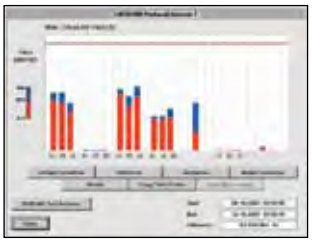
Included accessories	Models	
Four flexible probes 15/150/1500/3000 A with 2 m cable, PQ Log software, RS-232 interface cable and USB adapter, four dolphin clips, test leads for voltages and power supply, colour localisation kit, carrying bag, test certificate with measurement values, users manual, multi-language manual CD.	FLUKE-1745	Power Quality Logger – Memobox
	FLUKE-1744	Power Quality Logger – Memobox
	FLUKE-1743	Power Quality Logger – Memobox
Acquisition unit, PDA and charger, power plug adapters, four 400 A current probes, five test leads and clips, SD memory card, Fluke Power View and Fluke Power Analyze software, power cord with international plug set, ethernet cable, colour localisation set, users manual and CD.	FLUKE-1750	Three-Phase Power Recorder

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 1760 Three-Phase Power Quality Recorder



Fluke 1760



The included PQ Analyze software provides a detailed overview of several power quality parameters on one dashboard according to the EN50160 power quality standard.

Class-A compliance for the most demanding power quality tests

The Fluke 1760 Three-Phase Power Quality Recorder is fully compliant to IEC 61000-4-30 Class-A, for advanced power quality analysis and consistent compliance testing. Designed for analysis of utility and industrial power distribution systems, in medium and low-voltage networks, the Fluke 1760 provides the flexibility to customise thresholds, algorithms, and measurement selections. It has 8 input channels (4 currents/4 voltages or 8 voltages), and captures the most comprehensive details on user selectable parameters.

- **Fully Class-A compliant:** Conduct tests according to the stringent international IEC 61000-4-30 Class-A standard
- **GPS time synchronisation:** Correlate data with events or datasets from other instruments with precision
- **Flexible and fully configurable thresholds and scale factors:** Allows user to pinpoint specific issues by defining the detailed criteria for detection and recording of disturbances.
- **10 MHz, 6000 Vpk waveform capture:** Get a detailed picture of even the shortest event
- **2 GB data memory:** Enables detailed, simultaneous recording of numerous power parameters for long periods of time
- **Comprehensive software** (included)**:** Provides trend diagrams for root cause analysis, statistical summaries, report writing and real-time data monitoring in the online mode
- **Plug and play:** Allows quick setup with automatic sensor detection; sensors are instrument powered, eliminating the need for batteries

N10140

Recommended Accessories

1750/1760

3210-PR-TF
1000 A Thin Flexi Clamp

3310-PR-TF
5000 A Thin Flexi Clamp

1760 only

TPS FLex 24-TF

TPS Clamp 10 A/1 A

TPS VoltProbe 600 V

Specifications

Features	1760TR	1760
Online mode (oscilloscope, transients and events)	•	•
Fast transient analysis up to 10 MHz	•	–
Four 600 V voltage probes	•	•
Four dual-range flexible current probes (1000 A/200 A AC)	•	•
GPS time sync receiver	•	•

Ordering information

Included Accessories	Models	
Acquisition unit, voltage and current probes (depending on model orders) Fluke PQ Analyze software, power cord with international plug set, ethernet cable, colour localisation set, users manual and CD.	FLUKE-1760	Three-Phase Power Recorder
	FLUKE-1760TR	Three-Phase Power Recorder
	FLUKE-1760 BASIC	Three-Phase Power Recorder
	FLUKE-1760TR BASIC	Three-Phase Power Recorder

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

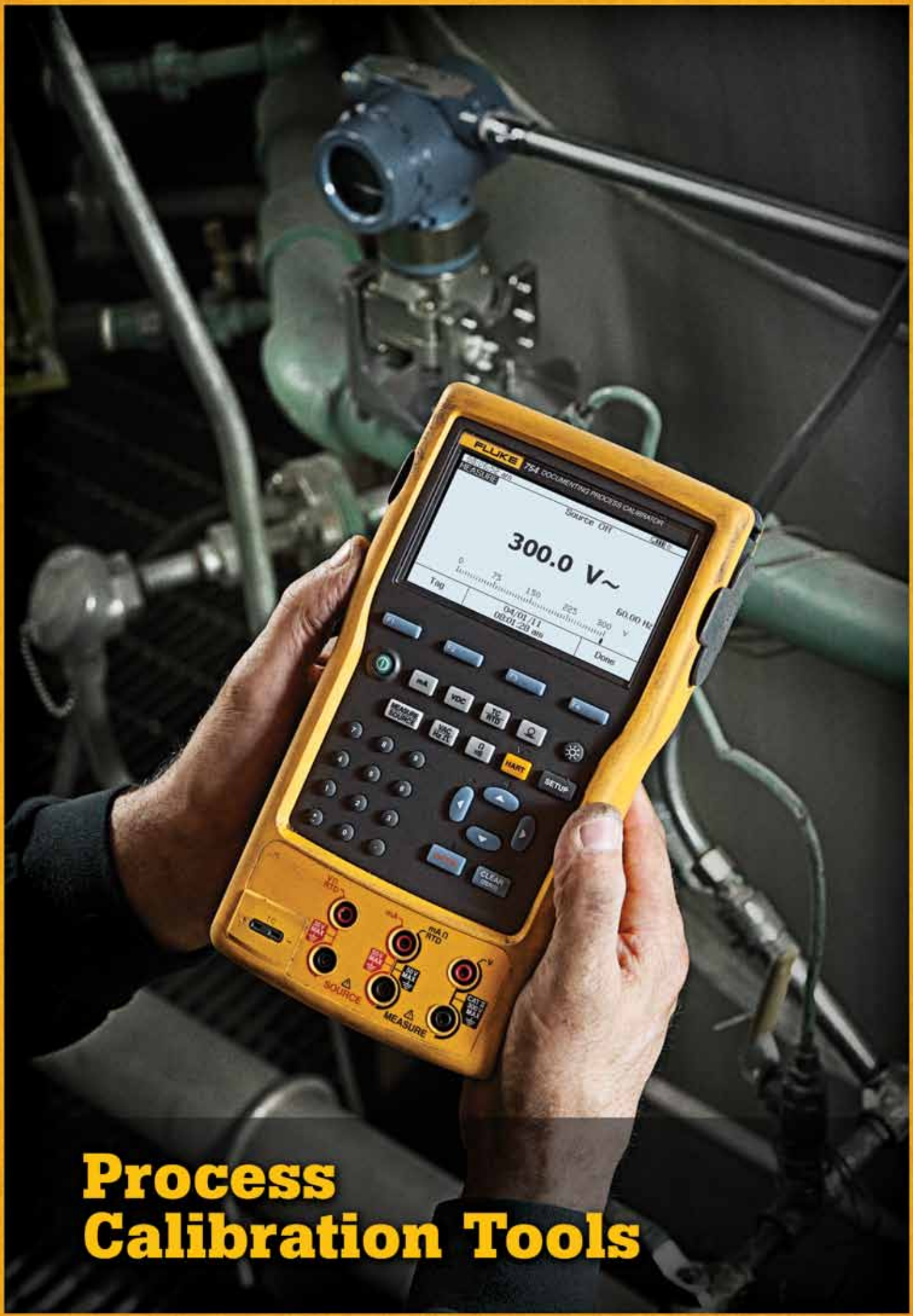
Power Quality Current Clamps

Fluke model number	i3000 Flex 4PK	i400s	i430-FLEXI-TF-4K	i5sPQ3	1000A 3210 PR TF iflex	Fluke-1730 iFlexi 1500A 12 IN	Fluke-1730 iFlexi 3000A 24 IN	Fluke-1730 iFlexi 6000A 36 IN	Fluke-1730 i40s-EL Clamp-on Current Transformer
Description	4 ... phase 3000A Flexible current clamp set	Single phase 400A current clamp (4 required)	4 ... phase 3000A Flexible current clamp set	3 ... phase 5A Current clamp set	1000A Single phase flexible current clamp	1500 A Single phase flexible current clamp (3 required) IP 50	3000 A Single phase flexible current clamp (3 required) IP 50	6000 A Single phase flexible current clamp (3 required) IP 50	4/40A Current clamp (3 required)
Old Fluke model #					3210-PR	n/a	n/a	n/a	n/a
Fluke 1750					•				
Fluke 43X	•	•	•	•					
Fluke 1730						•	•	•	•
Nominal current range(s)	30 A 300 A 3000 A	40 A 400 A	3000A	5:00 am		1A to 150A, 10A to 1500A	3A to 300A, 30A to 3000A	6A to 600A, 60A to 6000A	40mA to 4A, 0.4A to 40A
Cont. AC current range	1 A ... 30 A 1 A ... 300 A 1 A ... 2400 M	0.5 A ... 40 A 5 A ... 400 A	30 A ... 3000 A	0.01 A ... 6 A	0.5 A ... 1000 A	1 A ... 150 A 10 A to 1500 A	1A ... 300 A 10 A ... 3000A	1 A ... 600 A 10 A ... 6000 A	1 A ... 150 A 10 A ... 1500 A
Highest current	4000 A	1000 A	100 kA	70 A	1000 A	1500 A	3000 A	6000 A	200 A
Lowest measurable current	1:00 AM	0.5 A	30 A	10 mA	0.5 A	1 A	3 A	6 A	0.04 A
Basic accuracy (48 ... 65 Hz) [1]	2% + 2 A	2% + 0.15 A	1%	1%	± 1% of reading	0,70%	0,70%	0,70%	0,50%
Usable frequency	10 Hz ... 100 kHz	45 Hz ... 3 kHz	10 Hz ... 7 kHz	40 Hz ... 5 kHz	40 Hz ... 5 kHz	40 Hz ... 5 kHz	40 Hz ... 5 kHz	40Hz … 5kHz	40Hz … 5kHz
Requires battery	•								
Flex head length		Clamp opening: 32mm	61 cm	Clamp opening: 15mm	61cm	30.5cm	61cm	122cm	n/a
Output level(s)	10 mV/A 1 mV/A 0.1 mV/A	10 mV/A 1 mV/A	0.085 mV/A @50 Hz	400 mV/A	2 mV/A	n/a	n/a	n/a	n/a
Output cable (m)	2,1	2,5	2,5	2,5	3	2	2	2	2
Safety rating	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V
Connection	4 x BNC	4 x BNC	4 x BNC	3 x BNC	One connector	One connector	One connector	One connector	One connector
BNC to banana adapters included	•	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

[1] Basic accuracy: % reading plus floorspec.
n/a = not applicable

Fluke model number	i1A/10A CLAMP PQ3	I1A/10A CLAMP PQ4	i5A/50A CLAMP PQ3	i5A/50A CLAMP PQ4	I20A/200A CLAMP PQ3	i20A/200A CLAMP PQ4	3000/6000A-TF-4	FS17X5-TF	FS17xx IP65-TF
Description	3 ... phase 1A/10A Mini current clamp set	4 ... phase 1A/10A Mini current clamp set	3 ... phase 5A/50A Mini current clamp set	4 ... phase 5A/50A Mini current clamp set	3 ... phase 20A/200A Mini current clamp set	4 ... phase 20A/2000A Mini current clamp set	4 Phase flexiset	4 Phase flexiset, IP41	4 Phase flexiset, IP65
Old Fluke model #	CURRENT CLAMPS 1A (EP0450A)	MBX CLAMP 1A/10A+N (EP0451A)	MBX CLAMP 5A/50A (EP0452A)	MBX CLAMP 5A/50A+N (EP0453A)	MBX CLAMP 20A/200A (EP0455A)	MBX CLAMP 20/2000A+N (EP0456A)		MBX Lem Flex (15/150/3000) (EP0404A)	MBX Lem Flex (15/150/3000) (EP0404A)
Fluke 1735	•	•	•	•	•	•	•	•	•
Fluke 174X	•	•	•	•	•	•	•	•	•
Nominal current range(s)	1 A 10 A AC	1 A 10 A AC	5 A 50 A AC	5 A 50 A AC	20 A 200 A AC	20 A 200 A AC	30A 300A 3000A 6000A AC	15A 150A 1500A 3000A AC	15A 150A 1500A 3000A AC
Cont. AC current range	10 mA ... 1 A 100 mA ... 10 A	10 mA ... 1 A 100 mA ... 10 A	50 mA ... 5 A 500 mA ... 50 A	50 mA ... 5A 500 mA ... 50 A	200 mA ... 20 A 2 A ... 200 A	200 mA ... 20 A 2 A ... 200 A	0.8 ... 6.000 A AC	450mA … 15A 600mA… 150A 6A… 1500A 12A… 3000A	450mA … 15A 600mA… 150A 6A… 1500A 12A… 3000A
Highest current	20 A	20 A	100 A	100 A	300 A	300 A	0.8 A	3300 A	3300 A
Lowest measurable current	10 mA	10 mA	50 mA	50 mA	200 mA	200 mA		450 mA	450 mA
Basic accuracy (48 ... 65 Hz) [1]	0,50%	0,50%	0,50%	0,50%	0,50%	0,50%		2%+2% position influence	2%+2% position influence
Usable frequency	40 Hz ... 10 kHz	40 Hz ... 10 kHz	40 Hz ... 10 kHz	40 Hz ... 10 kHz	40 Hz ... 10 kHz	40 Hz ... 10 kHz		40Hz …5kHz	40Hz …5kHz
Flex head length							92 cm	61 cm	61 cm
Output level(s)	75 mV/A	75 mV/A	15 mV/A	15 mV/A	3.75 mV/A	3.75 mV/A		0.1 mV/A	0.1 mV/A
Output cable (m)	2	2	2	2	2	2	4	2	2
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600V	CAT III 1000 V CAT IV 600V	CAT III 1000 V CAT IV 600V
Connection	One connector	One connector	One connector	One connector	One connector	One connector	One connector	One connector	One connector
BNC to banana adapters included	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

[1] Basic accuracy: % reading plus floorspec.
n/a = not applicable



Process Calibration Tools

Pick the right process tool for you

Process Tools Selection Guide

	Documenting Process Calibrators	Multifunction Process Calibrator		Temperature Calibrators			Pressure Calibrators					Loop Calibrators							Process Meters
Model	**754/753**	**725/725Ex**	**726**	**724**	**714B**	**712B**	**718/718Ex**	**717**	**719**	**719Pro**	**721**	**715**	**707/707Ex**	**709/709H**	**771**	**772**	**773**	**705**	**789/787**
Measure																			
Voltage DC	300 V	30 V	30V	30 V	75 mV					30V	30V	10V	28 V	30 V			30 V	28 V	1000 V
Voltage AC (true RMS)	300 V																		1000 V
Resistance	10 kΩ	3200 Ω	4000 Ω	3200 Ω		4000 Ω													40 MΩ
Current DC	110 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	24 mA	100 mA	100 mA	100 mA	24 mA	30 mA, 1 A
Current AC																			●
Frequency	50 kHz	10 kHz	15 kHz																20 kHz
Pressure	●[1]	●[1]	●[1]				-0.85 bar to 20 bar (4 ranges)/ up to 700	-0.85 bar to 700 bar (10 ranges)/	-0.85 bar to 7 bar (2 ranges)/ up to 700 bar [1]	-0.8 bar to 20 bar (3 ranges)/ up to 700 bar [1]	Input 1: -0.97 bar to 2,48 bar Input 2: -0.83 bar to 345 bar [3]								
Temperature										-50 to 150°C[4]	-50 to 150°C[4]								
Temperature: RTD types	8	7	8	7		13													
Temperature: TC types	13	12	12	12	17														
Source/Simulate																			
Voltage DC	15 V	10 V	20 V	10 V	75 mV							10 V					10V		
Resistance	10 kΩ	3200 Ω	4000 Ω	3200 Ω		4000 Ω													
mA DC/% scale	22 mA	24 mA	24 mA						●	●		24 mA	24 mA	●		24 mA	24 mA	24 mA	24 mA
mA source; auto step, auto ramp	●	●	●									●	●	●		●	●	●	●
Frequency	50 kHz	10 kHz	15 kHz																
Temperature: RTD types	8	7	8	7		13													
Temperature: TC types	13	10	10	10	17														
Record																			
Min/Max	●						●	●	●	●	●								●
Hold							●	●	●						●	●	●		●
As Found/As Left results	●																		
Log data	●													-/●					
Upload data to PC	●													-/●					●/-
Remote operation		●/-	●																
Features																			
Loop supply	26 V	24 V/12 V	24 V	24 V			24 V/-	24 V	24 V	24 V	24 V	24 V	24 V	24 V		24 V	24 V	24 V	24 V/-
Hart communication	●/-													-/●					
Integrated hand pressure pump							●												
Electric Pump									●	●	●								
Intrinsically safe (ATEX)		725Ex					718Ex						707Ex						
NIST traceable certification	●	●	●	●	●	●	●	●	●	●	●	●	●	●				●	
Warranty in years	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

[1] Fluke 700 pressure modules required
[2] Ranges for the internal sensor.
Ranges for use of Fluke 700 pressure modules, see page 108.

Maintenance Manager

Focus: Maintaining plant uptime and maintenance efficiency.

What issues do you face?

- Ensuring continuous uptime
- Maintaining good ROI for equipment
- Compliance
- Process improvement
- Increase efficiency

Fluke solutions:

- Temperature
- Pressure
- Standards
- Process tools

Quality Manager

Focus: Maintaining and documenting product quality

What issues do you face?

- Complying with quality regulations
- Maintaining documentation of processes

Fluke solutions:

- Temperature
- Pressure
- Standards
- Process tools
- Software

Field Calibration Technician

Focus: Calibrating and verifying measurement devices

What issues do you face?

- Making accurate measurements
- Documenting procedures
- Increasing throughput

Fluke solutions:

- Temperature
- Pressure
- Standards
- Process tools
- Software
- Field Metrology Wells

Instrumentation Technician

Focus: Maintaining and verifying instrumentation throughout the plant

What issues do you face?

- Monitor and maintain sensors and transmissions
- Accurate measurements

Fluke solutions:

- Temperature
- Pressure
- Standards
- Process tools
- Software
- Field Metrology Wells

* Diagram is not intended to be an exact

Bench Pressure Controller	Bench Temperature Sources		Deadweight Testers		Handheld Pressure Calibrators		Infrared Calibrator	mA Loop Calibrator
6241	9100S	9144	6532	3120	750P	719	4181	773

FLUKE®

Process Calibration Solutions

Learn more information on Fluke process calibration solutions at **www.fluke.com/my/PCT**

Based on you. Built by Fluke.

representation. Diagram components are not to scale and are for illustration purposes only.

Precision Multimeter	Pressure Gauge	Temperature Readouts and Probes		Process Calibrators				Software Solutions
8846A	700G	1524	PROBES	725	754	789	7526A	DPC/TRACK 2

Fluke 771, 772 and 773 mA Process Clamp Meters

Fluke 771 Fluke 772 Fluke 773

Don't break the loop on 4–20mA signal measurements and save time with the Fluke 771, 772 and 773 milliamp Process Clamp Meters.

Use the Fluke 772 and 773 to:

- Source 4–20 mA signals for testing control system I/O or I/Ps
- Simulate 4–20 mA signals for testing control system I/O
- Measure 4–20 mA signals with in-circuit measurement
- Power a transmitter with the 24 V loop power supply
- Automatically ramp and step change the 4–20 mA output for remote testing

Use the Fluke 773 to:

- Measure DC voltage to verify 24 V power supplies or voltage I/O signals
- Source DC voltage to test voltage input devices
- Scaled mA output signal enables a logging DMM (289) to record 4–20 mA signal without breaking the loop
- mA in/out: simultaneously source a mA signal while measuring a mA signal with the clamp

Fluke 771, 772 and 773 mA Process Clamp Meters pay for themselves.

- The more you use them the more money you save
- Measuring 4 to 20 mA signals (five) times without operator intervention can pay for the 771
- Saving a trip back to shop to get a loop calibrator can pay for the price difference of the 772
- Saving a trip back to the shop for a voltage test source can pay for the price difference of the 773

Recommended Accessories

TL220
SureGrip Industrial Test Lead Set
See page 100

C550
Tool Bag
See page 98

Features

	mA measure w/jaw	mA measure In circuit	mA source	mA sim	Loop power 24 V	DCV source 0-10 V	DCV measure 0-30 V	Scaled mA output to mA input	mA in/out
771	•	–	–	–	–	–	–	–	–
772	•	•	•	•	•	–	–	–	–
773	•	•	•	•	•	•	•	•	•

Specifications

	Function	Resolution and range	Accuracy	Notes
771, 772, 773	mA measurement	0 mA to 20.99 mA	0.2 % + 5 counts	Measured by clamp
		21.0 mA to 100.0 mA	1 % + 5 counts	–
772 and 773	mA measurement	0 mA to 24.00 mA	0.2 % + 2 counts	Measured in series with test jacks
772 and 773	mA source	0 mA to 24.00 mA	0.2 % + 2 counts	Maximum mA drive: 24 mA into 1,000 ohms
772 and 773	mA simulate	0 mA to 24.00 mA	0.2 % + 2 counts	Maximum voltage 50 V DC
773	Voltage source	0 V DCto 10.00 V DC	0.2 % + 2 counts	2 mA maximum drive current
773	Voltage measure	0 V DCto 30.00 V DC	0.2 % + 2 counts	–

General specifications	771	772	773
Battery	Two 1.5 V, Alkaline, IEC LR6	Four 1.5 V, Alkaline, IEC LR6	
Working hours	20 hours typical	12 hours @ 12 mA source into 500 ohms	
Size (HxWxL)	59 mm x 38 mm x 212 mm (2.32 in x 1.5 in x 8.35 in)	41.3 mm x 76 mm x 248 mm (1.625 in x 3 in x 9.75 in)	
Weight	260 g (9.1 oz)	415 g (14 oz)	
Operating temperature	-10 °C to 50 °C		
IP rating	IP 40		
Warranty	Three-year, one-year on mA clamp assembly and cable		

Ordering information

Included accessories	Models	
Soft carrying case, users manual.	FLUKE-771	Milliamp Process Clamp Meter
Test leads, alligator clips and hanging strap, soft carrying case, users manual.	FLUKE-772	Milliamp Process Clamp Meter
	FLUKE-773	Milliamp Process Clamp Meter

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 789 and 787 ProcessMeter™ Test Tools

Fluke 789

Fluke 787

The Fluke 787 and 789 ProcessMeters combine a Digital Multimeter and a Loop Calibrator in one rugged handheld tool, giving process technicians double the power.

Fluke 789 ProcessMeter

With the Fluke 789 ProcessMeter™, process technicians can do a lot more while carrying a lot less.

- 24 V loop power supply
- CAT IV 600V rating
- HART mode setting with loop power (adds 250 ohm resistor)
- Double-sized, dual display
- 20 mA drive into 1200 ohms
- Backlight with two brightness settings
- 0 % to 100 % mA Span Check buttons to toggle between 4-20 mA
- Infrared I/O serial port compatible with FlukeView® Forms Software
- Improved battery power with four AA batteries
- Plus all the proven 787 features

Fluke 787 ProcessMeter

- Simultaneous mA and % of scale readout on mA output
- 25 % Manual Step plus Auto Step and Auto Ramp on mA output
- Min/Max/Avg/Hold/Relative modes
- Externally accessible battery for easy changes

1000 V CAT III 600 V CAT IV True RMS

(Fluke 789 only)

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

TL220
SureGrip Industrial Test Lead Set
See page 100

80T-150UA
Universal Temperature Probe
See page 104

TL175
TwistGuard™ Test Leads
See page 102

C115
Soft Carrying Case
See page 99

80PK-8
Pipe Clamp Temperature Probe
See page 104

Specifications

Measurement function	Best accuracy range and resolution	(% of reading + LSD)
V DC	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.1 % + 1
V DC (true-rms)	400.0 mV, 4.000 V, 40.00 V, 400.0 V, 1000 V	0.7 % + 2
mA DC	30.000 mA	.05 % + 2
A DC	1.000 A (0.440 A continuous)	0.2 % + 2
A AC	1.000 A (0.440 A continuous)	1 % + 2
Resistance	400.0 Ω, 4.000 k, 40.00 k, 400.0 k, 4.0 M, 40 M	0.2 % + 1
Frequency (0.5 Hz to 20 kHz)	199.99 Hz, 1999.9 Hz, 19.999 kHz	.005 % + 1
Diode test	789: 2.000 V (shows diode voltage drop) 787: 2.400 V (shows diode voltage drop)	2 % + 1 2 % + 1
Continuity	Beeps for resistance < approx. 100 ohms	

Output function	Range and resolution	Drive capability	Accuracy (% of span)
DC current output (internal battery operation)	0.000 mA to 20.000 mA or 4.000 mA to 20.000 mA (selectable at power-up) Over-range to 24.000 mA	789: 24 V compliance or, 1,200 ohms, @ 20 mA 787: 12 V compliance or, 500 ohms, @ 20 mA	.05 %
DC current simulate (external 24 V loop supply, up to 48 V on 789 only)	0.000 mA to 20.000 mA or 4.000 mA to 20.000 mA, (selectable at power-up) Over-range to 24.000 mA	1000 ohms, @ 20 mA	.05 %
24 V loop supply	789: Minimum 24 V, 787: Not available	250 ohms @ 20 mA	> 24 V
Current adjustment modes	Manual: coarse, fine, 25 % and 100 % step (100 % step 789 only) Automatic: slow ramp, fast ramp, 25 % step		

Temperature range of 18 °C to 28 °C, for one year after calibration.
Maximum voltage applied between any jack and earth ground:1000 V rms.
Storage temperature: -40 °C to 60 °C.
Operating temperature: -20 °C to 55 °C.
Relative humidity: 95 % up to 30 °C; 75 % up to 40 °C; 45 % up to 50 °C; 35 % up to 55 °C.
Safety: Designed in accordance with EN61010, ANSI/ISA S82.01-1994 and CAN/CSA C22.2 No. 61010.1-92 Over-voltage CAT III.
Size (HxWxL)/weight (787 with holster): 52 mm x 98 mm x 201 mm (2.06 in x 3.86 in x 7.93 in)/638 g (1.4 lb).
Size (HxWxL)/weight (789): 50 mm x 100 mm x 203 mm (1.97 in x 3.94 in x 8.00 in)/600 g (1.3 lb).
Warranty: Three-year.

Ordering information

Included accessories	Models	
Test leads, alligator clips, 4 AA alkaline batteries (installed), quick reference guide, users manual, multi-language manual CD.	FLUKE-789	ProcessMeter
Test leads, alligator clips, holster with test lead storage, one 9 V alkaline battery (installed), quick reference guide, users manual, multi-language manual CD.	FLUKE-787	ProcessMeter

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 715, 707 and 705 Loop Calibrators

Complete family of Volt/mA calibrators

Fluke 715

Fluke 715 Volt/mA Calibrator

- Source voltage to 200 mV or 20 V
- Measure loop current (0–20 mA, 4–20 mA) signals with 0.01 % accuracy and 1 µA resolution
- Measure voltage output process signals from PLCs, transmitters
- Source or simulate 4–20 mA loop current
- 24 V loop supply with simultaneous current measurement
- Ramp and Step Ramp output functions

Fluke 707 and 705

- Innovative output adjustment dial on 707 provides 1 µA and 100 µA resolution and one-hand operation
- Large display and simple interface for ease of use
- Simultaneous mA and % readout for quick, easy interpretation of readings
- mA accuracy of 0.015 % on the Fluke 707 and 0.02 % on the 705
- HART™ mode on 707 connects 250 ohm resistor in series with 24 V loop for compatibility with HART communicators
- Push button 25 % steps for fast, easy linearity checks
- "Span Check" for fast confirmation of zero and span
- Selectable slow and fast linear step ramp provide ramping outputs for valve slewing, remote testing and loop functional tests
- 24 V internal loop supply, so you can power and read a transmitter at the same time without carrying a DMM
- 0–20 mA or 4–20 mA default start up modes

Fluke 707

Specifications

Functions	Fluke 705 and 707	Fluke 715	
Voltage measurement			
Range	0 V to 28 V	0 mV to 200 mV	0 V to 25 V
Resolution	1 mV	10 µV	1 mV
Accuracy	705: 0.025 % Rdg + 1 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % Rdg + 2 LSD	
Current measurement			
Range	0 mA to 24 mA	0 mA to 24 mA	
Resolution	0.001 mA	0.001 mA	
Accuracy	705: 0.02 % Rdg + 2 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % + 2 LSD	
Current sourcing			
Range	0 mA to 20 mA or 4 mA to 20 mA	0 mA to 20 mA or 4 mA to 20 mA	
Accuracy	705: 0.025 % Rdg + 2 LSD 707, 707Ex: 0.015 % Rdg + 2 LSD	0.01 % Rdg + 2 LSD	
Drive capability	705: 1000 Ω @ 24 mA 707: 1200 Ω @ 24 mA 707Ex: 700 Ω @ 20 mA	1000 Ω @ 24 mA	
Loop power while measuring mA	24 V	24 V	
Voltage sourcing		0 mV to 200 mV or 0 V to 20 V	
Display current and % of span	Yes	mA or %	
Auto step, auto ramp	Yes	Yes	
Span Check	Yes	Yes	
Battery life	18 hours typical, at 12 mA	18 hours typical, at 12 mA	
Warranty	Three-year		

Ordering information

Included accessories	Models	
Test leads, alligator clips, holster, traceable calibration report and data, single 9 V alkaline battery, instruction sheet (14 languages).	FLUKE-715	Volt/mA Calibrator
	FLUKE-707	Loop Calibrator
	FLUKE-707 Ex	Intrinsically Safe Loop Calibrator
	FLUKE-705	Loop Calibrator
Test leads, test probes and alligator clips. Quick reference guide, traceable certificate of calibration, manual on CD. Additional hook clips (709H only) for HART communication.	FLUKE-709	Precision Current Loop Calibrator
	FLUKE-709H	Precision Current Loop Calibrator-HART
Special Lemo to USB cable for upload-download, software media and manual on CD.	FLUKE-709H/ TRACK	Datalogging Cable and Software

Specialty Models

Fluke 707 Ex Intrinsically Safe Loop Calibrator

See page 75 for more information.

Recommended Accessories

TL28A
Heavy Duty Test Lead Set

TL220
SureGrip Industrial Test Lead Set
See page 100

C550
Tool Bag
See page 99

PV350
Pressure Vacuum Module
See page 108

Fluke 709/709H Precision Current Loop Calibrators

- Best-in-class accuracy at 0.01 % reading
- HART Communication (709H only) communicate with and test HART smart instruments
- Compact rugged design
- Intuitive user interface with quick-set knob for fast setup, easy to use
- 24 V DC loop power with mA measure mode
- Resolution of 1 µA on mA ranges
- Built in selectable 250 Ω resistor for HART communications
- Simple two wire connection for all measurements
- Valve test (source and simulate defined mA values with % keys)
- Upload logged mA measurements and HART device data using the 709H with optional 709H/TRACK software

For more information, go to **www.fluke.com/my/709H**

HART is a registered trade mark of the HART Communications Foundation.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 750 Series Documenting Process Calibrators

Calibrate/troubleshoot process control instrumentation

Fluke 754

- Calibrate temperature, pressure, voltage, current, resistance and frequency instruments
- Built-in procedures for transmitters, square root transmitters, pressure and temperature switches
- Simultaneously measure and source
- Automatically capture calibration results
- Document procedures and results to meet ISO 9000, EPA, FDA, OSHA and other requirements
- Measure/simulate 13 types of thermocouples and eight RTDs
- Store up to 8,000 readings in data logging mode
- Protected against dirt, dust and moisture; unaffected by vibration
- Includes a USB interface
- Operate in English, French, German, Italian and Spanish
- One and two year calibration cycles and a three year warranty (one-year for pressure modules)

Fluke 754: Get HART-ability™

The Fluke 754 offers all of the capabilities of the 753, plus the ability to calibrate, maintain and troubleshoot HART instrumentation. Integrated HART communication functions permit you to monitor, control and calibrate HART instrumentation. It handles fast pulsed instruments such as RTD transmitters and PLCs responding to pulses within 1 ms.

For more information, go to **www.fluke.com/my**

Fluke 753

Fluke 753: A complete documenting calibrator

The 753 is a complete multifunction documenting calibrator and includes a PC interface that lets you load procedures, lists and instructions created with software—or unload data for printing, archiving, and analysis. The 753 can hold a full week of calibrations and procedures.

Specifications

Functions	Measure	Sourcing
DC voltage	0.020 % reading + 0.005 % full scale	0.01 % output + 0.005 % full scale
DC current	0.01 % reading + 5 µA	0.01 % output + 0.003 mA
Resistance	0.05 % reading + 50 mΩ	0.01 % output + 240 mΩ
Frequency	0 to 50 KHz, ± 0.5 Hz to 1100 Hz	0 to 50 KHz, ± 0.1 Hz to 1099.9 Hz
Thermocouples	0.3 °C	0.2 °C
RTDs	0.3 °C	0.1 °C
Pressure	To 0.025 % of full scale, per pressure module specifications	

Summary specifications: best case, mid-range, one year.
Battery life: Typically over eight hours
Internal battery pack: Li ion 4400 mAh
Battery replacement: Via twist lock fastener without opening calibrator; no tools required
Weight: 1.2 kg (2.7 lb)
Size (HxWxD): 245 mm x 136 mm x 63 mm (9.6 in x 5.4 in x 2.5 in)

Ordering information

Included accessories	Models	
Three sets of stackable test leads, three sets of test probes with three sets of "extended tooth" alligator clips, two sets of hook clips, li-ion battery pack, battery charger, field soft case, USB communication cable, getting started guide, instruction manual on CD, traceable certificate of calibration, DPC/TRACK2 sample software that enables upload and printing of calibration records. Model Fluke-754 includes HART communication cable.	FLUKE-754	Documenting Process Calibrator-HART
	FLUKE-753	Documenting Process Calibrator
Software media, instruction manual, USB cable.	FLUKE-750SW	DPC/TRACK2 Software

Recommended Software

Instrumentation management software

The Fluke 753 and 754 are compatible with Fluke 750SW DPC/TRACK2 software and with software from Cornerstone, Emerson, Honeywell, On Time Support, Prime Technologies, Yokogowa, Intools, Meridium and Beamex.

For more information, visit **www.fluke.com/my**

Recommended Accessories

750Pxx
Pressure Modules
See page 72-73

750SW
DPC/TRACK2 Software

700PTP-1
Pneumatic Test Pump
See page 104

C799
Field Soft Case
See page 99

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 726 and 725 Multifunction Process Calibrators

Fluke 726

Fluke 726 Precision Multifunction Process Calibrator

The Fluke 726 measures and sources nearly all process parameters and can calibrate almost anything. Interpret results without the help of a calculator and store measurement data for later analysis.

- Precise measurement and calibration source performance, accuracies of 0.01 %
- Transmitter error % calculation, interpret calibration results without a calculator
- Memory storage for up to eight calibration results, return stored calibration data from the field for later analysis
- Frequency totaliser and frequency pulse train source mode for enhanced flowmeter testing
- HART mode inserts 250 ohm resistor in mA measure and source for compatibility with HART instrumentation
- Integrated pressure switch test allows you to capture the set, reset and deadband of a switch
- Custom RTD curves, add calibration constants for certified RTD probes for temperature measurement
- Voltage input protection design for improved reliability

C US N10140

Fluke 725 Multifunction Process Calibrator

- Measure volts, mA, RTDs, thermocouples, frequency and ohms to test sensors and transmitters
- Source/simulate volts, mA, thermocouples, RTDs, frequency, ohms and pressure to calibrate transmitters
- Measure/source pressure using any of 29 Fluke 700Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to conduct valve and I/P tests
- Support flow meter testing with frequency and counts per minute (CPM) functions
- Perform fast linearity tests with auto step and auto ramp features

Intrinsically safe version available (see page 75)

Recommended Accessories

TPAK
Magnetic Meter Hanger
See page 107

80PK-27
Industrial Surface Temperature Probe
See page 103

750Pxx
Pressure Modules
See page 72-73

C125
Soft Carrying Case
See page 99

Specifications

Measure and source

Functions	Range or type	Resolution	Accuracy	Notes
Voltage	0 to 100 mV 0 to 10 V (source) **0 to 20 V (source)** 0 to 30 V (measure)	0.01 mV 0.01 V 0.01 V 0.01 V	**0.01 %**, 0.02 % Rdg + 2 LSD	Max load, 1 mA
mA	0 to 24	0.001 mA	**0.01 %**, 0.02 % Rdg + 2 LSD	Max load, 1000 Ω
mV (TC terminals)	-10.00 mV to +75.00 mV	.01 mV	**0.01 %**, 0.02 % of range + 1 LSD	–
Ohms	15 Ω to 3,200 Ω **5 Ω to 4,000 Ω**	0.01 Ω to 0.1 Ω	0.10 Ω to 1.0 Ω **0.015 %**	–
Hz - CPM	2.0 to 1,000 CPM 1 to 1000 Hz 1.0 to 10.0 kHz **10.0 to 15.0 kHz**	0.1 CPM 1 Hz 0.1 kHz **0.1 kHz**	± 0.05 % ± 0.05 % ± 0.25 % **± 0.05 %**	Source; 5 V p-p **1 V to 20 V p-p** squarewave, -0.1 V offset
Loop supply	24 V DC	N/A	10 %	–
T/C	J, K, T, E, L, N, U, XK	0.1 °C, 0.1 °F	to 0.7 °C **to 0.2 °C**	–
T/C	B, R, S, BP	1 °C, 1 °F	to 1.7 °C **to 1.2 °C**	–
RTDs	**Cu (10)**, Ni120 (672) Pt 100, 200, 500, 1000 (385) Pt 100 (3916), Pt 100 (3926)	**0.01 °C,** **0.01 °F** 0.1 °C, 0.1 °F	**to 0.15 °C** to 0.2 °C	–

Unique 726 specifications are bolded.

General specifications

Storage temperature: -20 °C to 71 °C
Operating temperature: -10 °C to 55 °C
Relative humidity: 90 % (10 °C to 30 °C); 75 % (30 °C to 40 °C); 45 % (40 °C to 50 °C); 35 % (50 °C to 55 °C)
Shock: 1 metre drop test
Safety: CSA C22.2 No. 1010.1:1992
EMC: EN50082-1:1992 and EN55022:1994 Class B
Size (HxWxD): 200 mm x 96 mm x 47 mm (7.9 in x 3.8 in x 1.9 in)
Weight: 650 g (23 oz)
Battery: Four AA alkaline batteries
Battery life: 25 hours typical
Warranty: Three-years

Simultaneous function capability	Channel A	Channel B
24.000 mA DC	M	M or S
24.000 mA DC with 24 V loop supply	M	–
100.00 mV DC	–	M or S
30.000 V DC measure	M	–
20.000 V DC measure; 10.000 V DC source; 20.000 V DC source	–	M or S
15 Ohms to 3200 Ohms (725); 5 Ohms to 4000 Ohms (726)	–	M or S
Thermocouple J, K, T, E, R, S, B, M, L, U, N, XK, BP	–	M or S
RTD Cu 10, Ni120; Pt100 (392); Pt100 (JIS); Pt100, 200, 500, 1000 (385), XK and BP	–	M or S
Pressure (requires Fluke 700PXX Modules)	M	M used as S
Frequency; 10 kHz; (15 KHz 726)	–	M or S

M = Measure, S = Source/Simulate

Ordering information

Included accessories	Models	
Test leads, test clips, one pair of stackable test leads, product overview manual, users manual in 14 languages on CD.	FLUKE-726	Precision Multifunction Process Calibrator
	FLUKE-725 Ex	Intrinsically Safe Precision Multifunction Process Calibrator
	FLUKE-725	Multifunction Process Calibrator

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 710 Series Temperature Calibrators

Fluke 714B

The Fluke 710 Series (724, 714B, 712B) temperature calibrators deliver outstanding performance, durability and reliability. With a push-button interface, similar to the multifunction Fluke 750 Series Documenting Process Calibrators, the 710 Series are easy to use. Each calibrator is EMI tolerant, dust-and splash-resistant, and features a removable battery door for quick battery changes.

Product Highlights

- The 712B can measure and simulate (13) different RTD types and resistance
- The 714B can measure and simulate (17) different thermocouple types and millivolts
- Measure 4 to 20 mA signals while simultaneously sourcing a temperature signal
- Hanging tool designed in and included with every unit
- Configurable 0 % and 100 % source settings for quick 25 % linearity checks
- Linear ramp and 25 % step auto ramp based on 0 % and 100 % settings
- Dual inputs and backlit display for easy interpretation of measurements
- Power down settings remembered at power up for easy restart of tests
- 1-year and 2-year specifications and traceable certificate of calibration

Specialty Model

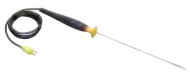
Fluke 724 Temperature Calibrator

- Easy to read dual display allows for input and output simultaneous view
- Source/measure TCs, RTDs, volts and ohms
- Measure mA while supplying loop power
- 25 % and 100 % stepping, auto-step and auto ramp

Recommended Accessories

TL175 (712B/724)
TwistGuard™ Test Leads
See page 102

TL220 (712B/724)
SureGrip Industrial Test Lead Set
See page 100



80PK-24 (714B/724)
SureGrip Air Temperature Probe
See page 103

80PK-3A (712B/724)
Surface Probe
See page 103

TPAK
Magnetic Meter Hanger
See page 107

AC220
SureGrip Alligator Clips
See page 102

C101 (724)
Meter Hard Case
See page 99

C25 (712B/714B)
Large Soft Case
See page 99

Specifications

Functions				
Ohms measurement (Fluke 712B)				
Ohms range	0.00 Ω to 400.00 Ω		400.0 Ω to 4000.0 Ω	
Accuracy (% of reading + counts)	0.015 % + 0.05 Ω		0.015 % + 0.5 Ω	
Note: Read accuracy is based on 4-wire input. For 3-wire ohm measurements, assuming all three leads are matched, add 0.05 Ω (0.00 Ω - 400.00 Ω), 0.2 Ω (400.0 Ω - 4000.0 Ω) to the specifications. **Temperature coefficient:** ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C)				
Ohms source (Fluke 712B)				
Ohms range	1.0 Ω to 400.0 Ω	1.00 Ω to 400.00 Ω	400.0 Ω to 1500.0 Ω	1500.0 Ω to 4000.0 Ω
Excitation current from measurement device	0.1 mA to 0.5 mA	0.5 mA to 3 mA	0.05 mA to 0.8 mA	0.05 mA to 0.4 mA
Accuracy (% of reading + counts)	0.015 % + 0.1 Ω	0.015 % + 0.05 Ω	0.015 % + 0.5 Ω	0.015 % + 0.5 Ω
Resolution	0.01 Ω		0.1 Ω	
Temperature coefficient: ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C) Supports pulsed transmitters and PLCs with pulse times as short as 5 ms				
Millivolt measurement and source (Fluke 714B)				
Resolution	0.01 mV			
Range	-10 mV to 75 mV			
Accuracy (% of reading + counts)	0.015 % + 10 µA			
Temperature coefficient: ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C)				

Maximum voltage applied between any terminal and earth ground or between any two terminals: 30 V
Operating temperature: -10 °C to 50 °C
Storage temperature: - 30 °C to 60 °C
Operating altitude: 2,000 meters **Storage altitude:** 12,000 meters
Relative humidity (% RH operating without condensation): Non condensing 90 % (10 °C to 30 °C); 75 % (30 °C to 40 °C); 45 % (40 °C to 50 °C) (Without condensation)
Vibration requirements: MIL-T-28800E, Class 2
Drop text requirements: 1 meter
IP Rating: IEC 60529: IP52
Electromagnetic environment: IEC 61326-1, Portable
Safety: IEC 61010-1, Max 30 V to earth, Pollution Degree 2
Power supply: 4 AA NEDA 1.5A IEC LR6 batteries
Size (H x W x L): 52.5 mm x 84 mm x 188.5 mm
Weight: 515g

Ordering information

Included accessories	Models	
Test leads, test clips, one pair of stackable test leads, product overview manual, users manual in 14 languages on CD.	FLUKE-724	Temperature Calibrator
Test leads, Magnetic hanging tool, Batteries, Manual, Traceable calibration certificate	FLUKE-714B	Themocouple Calibrator
	FLUKE-712B	RTD Calibrator

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Calibration Temperature Sources

Fluke 9144

N10140

Portable and flexible temperature-controlled dry-wells suitable for high speed calibrations or certifications of thermocouples, RTDs, PRTs and other temperature senses.

Fluke 9142/9143/9144 Field Metrology Wells

Field temperature calibration with precision and speed

The Fluke 914X Series Field Metrology Wells extend high performance portable temperature calibration to the industrial process environment by maximising portability, speed, and functionality with little compromise to metrology performance.

With the process option means there is no need to carry additional tools into the field. The optional built-in two-channel readout measures resistance, voltage, and 4–20 mA current with 24V loop power.

- Lightweight, portable, and fast
- Cool to -25 °C in 15 minutes and heat to 660 °C in 15 minutes
- Built-in two-channel readout for PRT, RTD, thermocouple, 4-20 mA current
- Stability to ± 0.01 °C
- Optional built-in reference thermometer readout
- Metrology performance in accuracy, stability, uniformity and loading
- Each device (process and non-process versions) comes with an IEC-17025 NVLAP-accredited calibration certificate.

Fluke 9141

N10140

Fluke 9103/9140/9141 Field Dry-Well Calibrators

These three units beat every other comparable dry-well in the industry in performance, size, weight, convenience, ease of calibration, software, and price. In addition, the heating and cooling rate of each of these dry-wells is adjustable from the front panel, thermal switches can be checked for actuation testing, and multiple-hole inserts are available for a variety of probe sizes.

- Lightweight and very portable
- Three models ranging from -25 °C to 650 °C
- Accuracy to ± 0.25 °C
- Stability to ± 0.02 °C
- RS-232 and Interface-it software included
- Easy to recalibrate

Ordering information

Models		Well inserts X in the model number to be replaced with A, B, C, D, E, or F as appropriate for the desired insert.	
9142-X	Field Metrology Well, -25 °C to 150 °C	9142-INSA 9142-INSB 9142-INSC	Insert A, 9142, misc holes Insert B, 9142, comp holes Insert C, 9142, 6 x 0.25 in holes
9142-X-P	Field Metrology Well, -25 °C to 150 °C, process version		
9143-X	Field Metrology Well, 33 °C to 350 °C	9143-INSA 9143-INSB 9143-INSC	Insert A, 9143, misc holes Insert B, 9143, comp holes Insert C, 9143, 6 x 0.25 in holes
9143-X-P	Field Metrology Well, 33 °C to 350 °C, process version		
9144-X	Field Metrology Well, 50 °C to 660 °C	9144-INSA 9144-INSB 9144-INSC	Insert A, 9144, misc holes Insert B, 9144, comp holes Insert C, 9144, 6 x 0.25 in holes
9144-X-P	Field Metrology Well, 50 °C to 660 °C, process version		

Models		Specify X, X = A, B, C, or D included insert	
9103-X	Field Dry-Well Calibrator, –25 °C to 140 °C	Insert A:	1/16" (1.6 mm), 1/8" (3.2 mm), 3/16" (4.8 mm), 1/4" (6.35 mm), 3/8" (9.5 mm) and 1/2" (12.7 mm)
9140-X	Field Dry-Well Calibrator, 35 °C to 350 °C	Insert B:	2 at 3/16" (4.8 mm), 2 at 1/4" (6.35 mm) and 2 at 3/8" (9.5 mm)
9141-X	Field Dry-Well Calibrator, 50 °C to 650 °C	Insert C:	6 at 1/4" (6.35 mm)
		Insert D:	2 at 3 mm, 2 at 4 mm and 2 at 6 mm

Recommended Accessories

9142-CASE
Carrying Case

9936A Log*Ware* III
Temperature Data Logging Software

Complete Solution

Fluke offers a complete solution for temperature calibration.

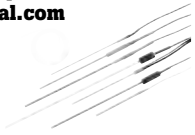
The **Fluke-750** series Documenting Process Calibrators *(See page 59)* work together with Fluke Field Metrology Wells to automate and document loop calibrations.

Improved accuracy

You can improve the accuracy of your calibration by using an external reference thermometer. Fluke's **1523/1524** reference thermometers measure, graph and record PRTs, themocouples and thermistors. *See page 64*

The Fluke **1551A Ex/1552A Ex "Stik"** Thermometer is accurate, stable and durable, making it the best alternative to mercury thermometers and existing electronic thermometers. *See page 64*

Fluke also offers a range of **precision reference probes**. PRTs, RTDs and thermistors. For more information please visit **http://as.flukecal.com**



Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Calibration Temperature Sources

Fluke 9102S

Fluke 9100S

Fluke 9100S/9102S Handheld Dry-Well Temperature Calibrators

- A temperature source that you can take anywhere
- Fast and easy calibrations of temperature sensors
- 9100S model weighs only 1 kilogram (2 lbs, 3 oz)
- Temperature ranges from –10 °C to 375 °C
- Stability during calibrations to ± 0.05 °C
- Direct interface to the Fluke 754 Documenting Process Calibrator

N10140

Recommended Accessories

9308
Rugged Carrying Case

9300
Rugged Carrying Case

Ordering information

Models		Optional accessories:			
9102S	Handheld dry-well (-10 °C to 122 °C)	3102-0:	Insert, blank	3102-5:	Insert, 5/16 in (7.9 mm)
Included inserts:		3102-1:	Insert, 1/16 in (1.6 mm)	3102-6:	Insert, 3/8 in (9.5 mm)
1/4" (6.4 mm), 3/16 (4.8mm)		3102-2:	Insert, 1/8 in (3.2 mm)	3102-7:	Insert, 7/16 in (11.1 mm)
		3102-3:	Insert, 3/16 in (4.8 mm)	3102-8:	Insert, 5/32 in (4 mm)
		3102-4:	Insert, 1/4 in (6.4 mm)	9308:	Rugged Carrying Case

Models		Specify X, X = A, B, C, or D Fixed-Block Options	
9100S-X	Handheld dry-well (to 375 °C)	Block A:	1/4" (6.4 mm), 5/32" (4 mm) 1/16" (1.6 mm), 1/8" (3.2 mm) 2 at 3/16" (4.8 mm)
		Block B:	3/16" (4.8 mm), 1/8" (3.2 mm) 3/8" (9.5 mm), 1/4" (6.4 mm)
Optional accessories:		Block C:	1/2" (12.7 mm), 3/16" (4.8 mm)
9300: Rugged Carrying Case		Block D:	2 at 3 mm, 2 at 4 mm, 2 at 6 mm

Fluke 1586A Super-DAQ Precision Temperature Scanner

Fluke 1586A

N10140

The Fluke1586A Super-DAQ is the most accurate and flexible temperature data acquisition system on the market. It scans and records temperature, DC voltage, DC current, and resistance for up to 40 input channels and scan speeds as fast as 10 channels per second. The Super-DAQ can be configured for use as a multi-channel data logger in the factory or as a precision reference thermometer for benchtop sensor calibration in the laboratory.

- Measure thermocouples, PRTs, thermistors, DC voltage, DC current, and resistance
- Best-in-class temperature measurement accuracy:
  - PRTs: ± 0.005 °C (using external DAQ-STAQ Multiplexer)
  - Thermocouples: ± 0.5 °C (using High-Capacity Module and internal CJC)
  - Thermistors: ± 0.002 °C
- Input Channels: Up to 40 isolated universal inputs
- Flexible configuration: Internal High- Capacity Module and/or DAQ-STAQ Multiplexer
- Selectable scan speed: Up to 10 channels per second
- Four modes of operation: Scan, Monitor, Measure, Digital Multimeter (DMM)

Ordering information

Models		Accessories:	
Super-DAQ and DAQ-STAQ Multiplexer		1586-2586:	High-Capacity Module without Relay Card
1586A/1DS	Super-DAQ, 1 DAQ-STAQ Multiplexer	1586-2586-KIT:	High-Capacity Module with Relay Card
1586A/1DS/C	Super-DAQ, 1 DAQ-STAQ Multiplexer, Accredited Calibration	1586-2588:	DAQ-STAQ Multiplexer without Adapter Card
1586A/2DS	Super-DAQ, 2 DAQ-STAQ Multiplexers	1586-2588-KIT:	DAQ-STAQ Multiplexer, Adapter Card, Interface Cable
1586A/2DS/C	Super-DAQ, 2 DAQ-STAQ Multiplexers, Accredited Calibration	1586-2588-CBL:	DAQ-STAQ Multiplexer Interface Cable
Super-DAQ and High-Capacity Module		Y1586S:	Rack Mount Kit, Single (half rack)
1586A/1HC	Super-DAQ, 1 High-Capacity Module	Y1586D:	Rack Mount Kit, Dual (full rack)
1586A/1HC/C	Super-DAQ, 1 High-Capacity Module, Accredited Calibration	1586-CASE:	Super-DAQ Carrying Case (mainframe and internal modules)
1586A/2HC	Super-DAQ, 2 High-Capacity Modules	1586/DS-CASE:	Super-DAQ/DAQ-STAQ Carrying Case (main frame and module)
1586A/2HC/C	Super-DAQ, 2 High-Capacity Modules, Accredited Calibration		
Super-DAQ, High-Capacity Module, and DAQ-STAQ Multiplexer			
1586A/DS-HC	Super-DAQ, 1 High-Capacity Module, 1 DAQ-STAQ Multiplexer		
1586A/DSHC/C	Super-DAQ, 1 High-Capacity Module, 1 DAQ-STAQ Multiplexer, Accredited Calibration		

Fluke 1523/1524 Reference Thermometers

Fluke 1524

The 1523/1524 Reference Thermometers from Fluke Calibration measure, graph and record PRTs, thermocouples and thermistors. You can measure up to 0.3 seconds per sample and plot and scale trends in real time. Both thermometers have memory for up to 25 readings with statistics. The 1524 has two inputs with data logging memory for 15,000 measurements with date and time stamps.

- High accuracy PRTs: ± 0.011 °C; Thermocouples: ± 0.24 °C; Thermistors: ± 0.002 °C
- A simple user interface to see trends quickly
- Smart connectors to load probe information automatically
- Use a PC and optional Log*Ware* II software to monitor and log more data over time

N10140

Fluke 1523

Fluke 1551A/1552A "Stik" Thermometers

Fluke 1551A/1552A

N10140

Best substitute for precision mercury-filled glass thermometers

Finally, a digital substitute for your mercury-in-glass thermometers. Accurate and repeatable to ± 0.05 °C over its full range, the 1551A/1552A "Stik" Thermometer is the new gold standard of industrial temperature calibration. Whether working outdoors in environments where potentially explosive gases may be present or on the floor of a processing plant, the intrinsically-safe, battery operated, portable reference thermometer is designed to go where you work.

- Accuracy of ± 0.05 °C (± 0.09 °F) over full range
- Intrinsically safe (ATEX and IECEx compliant)
- Two models to choose from (-50 °C to 160 °C or -80 °C to 300 °C)

Specifications

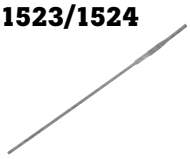
Temperature	Accuracy – 1523/1524 with 5616-12 PRT	Accuracy – 1523/1524 with 5610-9 Thermistor
-200 °C (-328 °F)	0.014	–
0 °C (32 °F)	0.021	0.009
100 °C (212 °F)	0.027	0.030
300 °C (572 °F)	0.040	–
420 °C (788 °F)	0.050	–

Equivalent temperature readout accuracy for measuring type K thermocouples is ± 0.24 °C (± 0.43 °F) from 0 °C to 1370 °C (32 °F to 2498 °F) and ± 0.61°C (± 1.10 °F) from –200 °C to 0 °C (–328 °F to 32 °F). Additional errors for thermocouple accuracy or calibration must be added separately.

Ordering information

Included accessories	Models	
12 V DC universal power supply, RS-232 cable, NIST traceable calibration certificate, technical manual and 9940 IO ToolKit software on CD, three AA batteries, users guide.	FLUKE-1524	Thermometer Readout (2 inputs)
	FLUKE-1523	Thermometer Readout (1 input)
TPAK, 2373-LTC, carrying case.	FLUKE-1524-P1	1524 Bundled with 5616 PRT
	FLUKE-1523-P1	1523 Bundled with 5616 PRT
	FLUKE-5616-12-P	Precision PRT w/calibration, 305 mm x 6.35 mm (-200 °C to 420 °C)
	FLUKE-5610-9-P	Precision Thermistor w/calibration, 229 mm x 3.2 mm (0 °C to 100 °C)
NVLAP-accredited report of calibration, user's guide on CD-ROM, 3 AAA batteries.	1551A-9	Thermometer, Fixed RTD, -50 °C to 160 °C, 3/16 x 9 in
	1551A-12	Thermometer, Fixed RTD, -50 °C to 160 °C, 1/4 x 12 in
* Model number appended with a -9, -12, -20 indicates probe sheath length in inches. All probe diameters are 6.35 mm (1/4 in) with the exception of the 1551A-9, which is 4.8 mm diameter (3/16 in).	1552A-12	Thermometer, Fixed RTD, -80 °C to 300 °C, 1/4 x 12 in
Traceable calibration report, user manual CD, getting started guide, power cord, thermocouple shorting jumper, and USB-to-serial adapter cable.	7526A	Precision Process Calibrator

Recommended Accessories 1523/1524



5616-12-P
Precision PRT
305 mm x 6.35 mm
(12 in x .25 in)

5610-9-P
Precision Thermistor
229 mm x 3.2 mm
(9 in x 1/8 in)

1523-CASE
1523/1524 Readout and Probe Carrying Case

2384-P, 2384-T
INFO-CON Connectors, PRT (gray cap) or TC (blue cap)

Recommended Accessories 1551A/1552A

1551-CASE
Carrying Case

Fluke 7526A Precision Process Calibrator

The Fluke Calibration 7526A Precision Process Calibrator offers the best balance of economy and accuracy for benchtop calibration of temperature and pressure process instrumentation.

- Source and measure DC voltage, current, resistance, thermocouples and RTDs
- Precision pressure measurement
- Built-in 24 V DC transmitter loop power supply
- Measure 4 mA to 20 mA loop current

For more information, go to **http://as.flukecal.com**

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 717, 718 and 719 Pressure Calibrators

Accurate and rugged, temperature calibration tools

Fluke 719

Fluke 719 Electric Pressure Calibrators

- Electric pump enables one-handed pressure pumping and makes pressure calibration quicker and easier
- Best in class 0.025 % pressure measurement accuracy
- Programmable pump limit settings can eliminate over-pressurisation—set 'pump to' pressure values
- Two ranges, 30 psi and 100 psi

Fluke 718

Fluke 718 Pressure Calibrators

- 1, 30, 100 and 300 psi ranges available
- Pump to 300 psi, 20 bar with internal pump (718-300G)
- 718-1G includes special low volume pump and high measurement resolution for low pressure calibration

Fluke 717 Pressure Calibrators

- Measure up to 10,000 psi/690 bar sensor (10000G model)
- Compatible with non-corrosive gases and liquids

718 and 719

- Precision vernier for fine pressure adjustment
- Variable release rate bleed valve for controlled pressure release

Fluke 717

717, 718 and 719 common features

- Pressure switch test makes a difficult task easy, captures set, reset and deadband values of a pressure switch
- 717 and 718, measure pressure to 0.025 % of full scale with internal sensor
- Measure mA with 0.015 % accuracy and 0.001 mA resolution, while sourcing 24 V loop power

Specifications

Models	Range	Resolution	Comment
717-1	+/- 1 psi, 27.5 in H_2O, (-7 - +7 kPa)	+0.0001 psi, 0.0001 kPa, 0.0001 in H_2O	Fluke 718 dry air only and includes on board pump
718-1G			
717-15G	-12 to 15 psi, -83 to 103 kPa	0.001 ps1, 0.01 kPa, 0.01 in H_2O	–
717-30G	-12 to + 30 psi, (-83 to 207 kPa)	0.001 psi, 0.001 kPa, 0.001 in H_2O	Fluke 718 and Fluke 719 dry air only and includes on board pump
718-30G* and 719-30G			
717-100G	-12 to + 100 psi, (-83 to 690 kPa)	0.01 psi, 0.01 kPa, 0.01 in H_2O	Fluke 718 and Fluke 719 dry air only and includes on board pump
718-100G*			
717-300G	-12 to +300 psi, (-83 to +2070 kPa)	0.01 psi, 0.01 kPa, 0.01 in H_2O	Fluke 718 dry air only and includes on board pump
718-300G* and 719-100G			
717-500G	0-500 psi, 0-3450 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1000G	0-1000 psi, 0-6900 kPa	0.01 psi, 0.1 kPa	Compatible with non-corrosive gases and fluids
717-1500G	0-1500 psi, 0-10342 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-3000G	0-3000 psi, 0-20700 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-5000G	0-5000 psi, 0-34500 kPa	0.1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
717-10000G	0-10000 psi, 0-69000 kPa	1 psi, 1 kPa	Compatible with non-corrosive gases and fluids
Pressure accuracy	0.035 % of range, 1 year. 0.025 % for 6 months, 717 and 718-1G: 0.05 % 6 months, 1 year, 718 and 717-300G 0.035 % 6 months, 0.05 % 1 year		
mA measurement	0-24 mA range	0.001 mA resolution	Accuracy: ± 0.015 % + 1 count
Loop power	24 V dc		Accuracy: ± 10 %

*Intrinsically safe models available, see page 75. **Warranty:** Three-year on calibrator, one-year on pump.

Ordering information

Included accessories	Models			
Test leads, alligator clips, holster, test hose (719), one 9 V alkaline battery (two 9 V batteries in 718 and 719), safety sheet.	FLUKE-719 30G	Electric Pressure Calibrator	FLUKE-719-100G	Electric Pressure Calibrator
	FLUKE-718 1G	Pressure Calibrator	FLUKE-718 30US	Pressure Calibrator
	FLUKE-718 100US	Pressure Calibrator	FLUKE-718 300G	Pressure Calibrator
	FLUKE-718Ex 30G	Intriscally Safe Pressure Calibrator	FLUKE-718Ex 100G	Intriscally Safe Pressure Calibrator
	FLUKE-717 1G	Pressure Calibrator		
	FLUKE-717 15G	Pressure Calibrator	FLUKE-717 30G	Pressure Calibrator
	FLUKE-717 100G	Pressure Calibrator	FLUKE-717 300G	Pressure Calibrator
	FLUKE-717 500G	Pressure Calibrator	FLUKE-717 1000G	Pressure Calibrator
	FLUKE-717 1500G	Pressure Calibrator	FLUKE-717 3000G	Pressure Calibrator
	FLUKE-717 5000G	Pressure Calibrator	FLUKE-717 10000G	Pressure Calibrator

Recommended Accessories

700ILF
In-Line Filter
See page 104

700LTP-1
Low Pressure Test Pump
See page 104

700HTP-2
Hydraulic Test Pump
See page 104

C116
Large Soft Case
See page 99

Fluke 718Ex Intrinsically Safe Pressure Calibrator

The Fluke 718Ex offers a convenient, self contained solution for pressure measurements and calibration.

- ATEX II 1 G Ex ia IIC T4
- 30, 100, and 300 psi ranges (2, 7, and 20 bar)
- Pressure measurement to 0.05% of full span, using an internal pressure sensor.
- Pressure measurement to 200 bar using any of eight intrinsically safe Fluke 700PEx Pressure Modules

For more information, *see page 75*

Fluke 750P Series Pressure Modules

- 48 pressure modules
- 0.025 % reference uncertainty
- 6-month and 1-year specifications
- Temperature compensated 0 °C to 50 °C
- Digital communication to calibrators, no analog losses or errors
- Broad selection of ranges
- Gage, differential, dual range, absolute and vacuum measurement models

Fluke Process Calibrators in this catalogue displaying the Pressure Enabled symbol display readings from the 750P Series Pressure Modules.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 719Pro Pressure Calibrators

NEW

Fluke 719Pro

Eliminate the hassle of hand pumping!

The new Fluke 719Pro is an exciting enhancement of the popular original 719 pressure calibrators. Notable improvements include expanding the pressure measurement range of the 100 PSI model up to 150 PSI and the addition of a 300 PSI range. The 719Pro adds a backlit display and precision temperature measurement with the addition of an accessory RTD probe available as a new accessory.

Features:

- Electric pump for one handed pressure calibration
- Best in class pressure measurement uncertainty of 0.025%
- Variable release rate bleed valve for easy pressure adjustment
- 30 PSI, 150 PSI and the long requested 300 PSI (2,10 and 20 bar) pressure ranges
- Programmable pressure calibrator pump limit eliminates over-pressurisation and allows the user to program target pressures for pumping
- Extended pressure measurement range with any of 48 750Pxx Pressure Modules
- Source mA with simultaneous pressure measurement to test valves and I/Ps
- Simulate mA signals to troubleshoot 4-20 mA loops
- Test pressure switches with built in switch test function
- Power transmitters during test using 24 V loop supply with simultaneous mA measurement

Pressure Modules

Fluke 750P Series Pressure Modules

- 48 pressure modules
- 0.025 % reference uncertainty
- 6-month and 1-year specifications
- Temperature compensated 0 °C to 50 °C
- Digital communication to calibrators, no analog losses or errors
- Broad selection of ranges
- Gage, differential, dual range, absolute and vacuum measurement models

Pressure Enabled

Fluke Process Calibrators in this catalogue displaying the Pressure Enabled symbol display readings from the 750P Series Pressure Modules.

For a full list of Fluke 750P Series Pressure Modules, visit **www.fluke.com/my/pressure**

Specifications

Pressure measurement	Range	Resolution	Accuracy	Comment
Fluke-719Pro-30G	-12 to 30 PSI /-0.8 to 2 bar	0.001 PSI, 0.0001 bar	± 0.025 % of full scale, 6 months ± 0.035 % of full scale, 1 year	Dry air and non-corrosive gas only
Fluke-719Pro-150G	-12 to 150 PSI /-0.8 to 10 bar	0.01 PSI, 0.001 bar		
Fluke-719Pro-300G	-12 to 300 PSI / -0.8 to 20 bar	0.01 PSI, 0.001 bar		
Temperature effect (all ranges)			Add ± 0.002 % F.S./°C for temps outside of 15 °C to 35 °C	No effect on accuracy on all functions from 15 °C to 35 °C
Function	**Range**	**Resolution**	**Accuracy (1 year)**	**Comment**
mA DC (simulation and measurement)	0-24 mA DC	0.001 mA	± 0.015 % of reading ± 2 counts	1000 Ohm maximum load in mA source, 26 V DC maximum voltage in mA simulate
Volts DC (measurement only)	30 V DC	0.001 V	± 0.015 % of reading ± 2 counts	No AC voltage measurement, do not exceed 30 V DC
Temperature (measurement only, Pt100 RTD)	-50 to 150 °C	0.01 °C 0.01 °F	Temperature ± 0.1 °C	± 0.25 °C combined uncertainty when using 720 RTD probe (optional accessory)
Loop power supply	24 V DC	N/A	24 mA at 24 V	
Temperature effect (all functions)			Add ± 0.002 % F.S./°C for temps outside of 15 °C to 35 °C	No effect on accuracy on all functions from 15 °C to 35 °C
Environmental				
Operating temperature			-10 °C to +50 °C	
Storage temperature (without batteries)			-20 °C to +60 °C	
Power requirements				
Battery			Eight (8) standard Alkaline AA batteries	
Battery life			300 pump cycles to 150 PSI minimum; 1000 pump cycles to 30 PSI; 100 pump cycles to 300 PSI minimum	
Physical				
Dimensions (HxWxD)			24.13 cm x 11.18 cm x 7 cm	
Weight			With holster 1.2 kg	
Connections				
Pressure			1/8 inch female NPT	
Electrical			Standard banana jacks	
RTD			4 pin miniature circular	
External module			6 pin miniature circular	

Fluke 721 Precision Dual Pressure Calibrators

NEW

Fluke 721

The new Fluke 721 family of dual pressure calibrator products are ideal for gas custody transfer measurements with ranges, accuracies and capabilities specifically tailored to address gas custody transfers. Add the optional RTD probe for a complete solution for testing flow computers and instruments used in gas flow measurement.

Features:

- Two isolated, stainless steel, pressure sensors with 0.025% F.S. accuracy
- 14 available pressure range configurations standard
- Temperature-compensation ensures accuracy in field applications
- External pressure module connection supports all pressure modules (29 ranges) for even more measurement capability
- Pt100 RTD input for temperature measurement, accurate to 0.1°C (0.2°F)
- Internal 24 V Loop Power Supply can power a transmitter under test
- Large graphic style LCD with backlight can be configured to display up to 3 inputs simultaneously
- Ideal for gas flow calibration (custody transfer) applications
- Pressure displayed in the user's choice of 19 engineering units

Recommended Accessories

720RTD
RTD Probe
for 721 & 791Pro

Specifications 1 Year

		Low Pressure Sensor			High Pressure Sensor		
Model	**Description**	**Range sensor 1**	**Resolution sensor 1**	**Accuracy sensor 1**	**Range sensor 2**	**Resolution sensor 2**	**Accuracy sensor 2**
Fluke-721-1601	Dual Sensor Pressure Calibrator, 16 PSIG, 100 PSIG	-14 psi to +16 psi -0.97 bar to 1.1 bar	0.001 psi, 0.0001 bar	0.025 % of full scale	-12 psi to +100 psi -0.83 bar to 6.9 bar	0.01 psi 0.0001 bar	0.025 % of full scale
Fluke-721-1603	Dual Sensor Pressure Calibrator, 16 PSIG, 300 PSIG				-12 psi to +300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar	
Fluke-721-1605	Dual Sensor Pressure Calibrator, 16 PSIG, 500 PSIG				-12 psi to +500 psi -0.83 bar à 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-1610	Dual Sensor Pressure Calibrator, 16 PSIG, 1000 PSIG				0 psi to +1000 psi 0.00 bar to 69 bar	0.1 psi 0.001 bar	
Fluke-721-1615	Dual Sensor Pressure Calibrator, 16 PSIG, 1500 PSIG				0 psi to +1 500 psi 0.00 bar to 103.4 bar	0.1 psi 0.001 bar	
Fluke-721-1630	Dual Sensor Pressure Calibrator, 16 PSIG, 3 000 PSIG				0 psi to +3 000 psi 0.00 bar to 200 bar	0.1 psi 0.01 bar	
Fluke-721-1650	Dual Sensor Pressure Calibrator, 16 PSIG, 5 000 PSIG				0 psi to +5 000 psi 0.00 bar to 345 bar	0.1 psi 0.01 bar	0.035 % of full scale
Fluke-721-3601	Dual Sensor Pressure Calibrator, 36 PSIG, 100 PSIG	-14 psi to +36 psi -0.97 bar to 2.48 bar			-12 psi to +100 psi -0.83 bar to 6,9 bar	0.01 psi 0.0001 bar	0.025 % of full scale
Fluke-721-3603	Dual Sensor Pressure Calibrator, 36 PSIG, 300 PSIG				-12 psi to +300 psi -0.83 bar to 20 bar	0.01 psi 0.001 bar	
Fluke-721-3605	Dual Sensor Pressure Calibrator, 36 PSIG, 500 PSIG				-12 psi to +500 psi -0.83 bar to 34.5 bar	0.01 psi 0.001 bar	
Fluke-721-3610	Dual Sensor Pressure Calibrator, 36 PSIG, 1000 PSIG				0 psi to +1 000 psi 0.00 bar to 69 bar	0.1 psi 0.001 bar	
Fluke-721-3615	Dual Sensor Pressure Calibrator, 36 PSIG, 1500 PSIG				0 psi to +1 500 psi 0.00 bar to 103.4 bar	0.1 psi 0.01 bar	
Fluke-721-3630	Dual Sensor Pressure Calibrator, 36 PSIG, 3 000 PSIG				0 psi to +3 000 psi 0.00 bar to 200 bar	0.1 psi 0.01 bar	
Fluke-721-3650	Dual Sensor Pressure Calibrator, 36 PSIG, 5 000 PSIG				0 psi to +5 000 psi 0.00 bar to 345 bar	0.1 psi 0.01 bar	0.035 % of full scale

Fluke 700G Precision Pressure Gauge Calibrator

Fluke 700G

With best-in-class accuracy and measurements, the Fluke 700G series precision pressure test gauges were designed to handle all of your pressure calibration needs. The 700G series pressure test gauges are rugged and easy to use, with twenty three models ranging from ±10 inH20/20 mbar to 10,000 psi/690 bar including absolute pressure ranges. When combined with the Fluke 700PTPK or 700HTPK you've got a complete pres sure testing solution for up to 600 psi (40 bar) with the PTP-1 pneumatic pump and up to 10,000 psi (690 bar) with the HTP-2 hydraulic pump.

Features:

- Precision pressure measurement from ±10 inH20/20 mbar to 10,000 psi/690 bar
- Absolute pressure measurement ranges 15, 30, 100, 300 psia
- Accuracy to 0.05 % of full scale
- Reference class gauge accuracies to 0.04 % of reading
- Easy to use, rugged construction for reliable performance
- CSA; Class 1, Div 2, Groups A-D rating
- ATEX rating: II 3 G Ex nA IIB T6
- Combine with the 700PTPK or 700HTPK pump kits for a complete pressure testing solution for up to 600 psi (40 bar) with the PTP-1 pneumatic pumpand up to 10,000 psi (690 bar) with the HTP-2 hydraulic pump
- Log up to 8,493 pressure measurements to memory (requires 700G/TRACK software)
- Three-year warranty

Specifications

Model	Range	Resolution	Accuracy	Burst Pressure
Fluke-700G01	-10 to +10 inH20 -20 mbar to 20 mbar	0.001 inH20 0.001 mbar	Positive pressure ± 0.1 % of range, Vacuum ± 0.1 % of range	3 psi, 210 mbar
Fluke-700G02	-1 to +1 psi -70 mbar to 70 mbar	0.0001 psi 0.001 mbar		5 psi 350 mbar
Fluke-700G04	-14 psi to 15 psi -.97 bar to 1 bar	0.001 psi 0.0001 bar	Positive pressure ± 0.05 % FS Vacuum ± 0.1 % FS	60 psi 4 bar
Fluke-700G05	-14 psi to 30 psi -.97 bar to 2 bar	0.001 psi 0.0001 bar		120 psi 8 bar
Fluke-700G06	-12 psi to 100 psi -.83 bar to 6.9 bar	0.01 psi 0.0001 bar		400 psi 26 bar
Fluke-700G27	-12 psi to 300 psi -.83 bar to 20 bar	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700G07	-12 psi to 500 psi -.83 bar to 34 bar	0.01 psi 0.001 bar		2000 psi 138 bar
Fluke-700G08	-14 psi to 1000 psi -.97 bar to 69 bar	0.1 psi 0.001 bar		4000 psi 266 bar
Fluke-700G10	-14 to 2000 psi -.97 bar to 140 bar	0.1 psi 0.01 bar		8000 psi 550 bar
Fluke-700G29	-14 psi to 3000 psi -.97 bar to 200 bar	0.1 psi 0.01 bar		10000 psi 690 bar
Fluke-700G30	-14 psi to 5000 psi -.97 bar to 340 bar	0.1 psi 0.01 bar		10000 psi 690 bar
Fluke-700G31	-14 psi to 10000 psi -.97 bar to 690 bar	1 psi 0.01 bar		20000 psi 1035 bar
Fluke-700GA4	0 to 15 psia 0 to 1 bar absolute	0.001 psi 0.0001 bar	± 0.05 % of range	60 psi 4 bar
Fluke-700GA5	0 to 30 psia 0 to 2 bar absolute	0.001 psi 0.0001 bar		120 psi 8 bar
Fluke-700GA6	0 to 100 psia 0 to 6.9 bar absolute	0.01 psi 0.0001 bar		400 psi 27 bar
Fluke-700GA27	0 to 300 psia 0 to 20 bar absolute	0.01 psi 0.001 bar		1200 psi 80 bar
Fluke-700RG05	-14 to +30 psi -0.97 to +2 bar	0.001 psi 0.0001 bar	Positive pressure, ± 0.04 % of reading +.01 % of range, Vacuum ± 0.05 % of range	90 psi 6 bar
Fluke-700RG06	-12 to 100 psi -0.83 to 6.9 bar	0.01 psi 0.0001 bar	Positive pressure, ± 0.04 % of reading +.01 % of range, Vacuum ± 0.1 % of range	400 psi 27 bar
Fluke-700RG07	-12 to 500 psi -0.83 to 34	0.01 psi 0.001 bar		2000 psi 138 bar
Fluke-700RG08	-14 to 1000 psi -0.97 to 69 bar	0.1 psi 0.001 bar		4000 psi 275 bar
Fluke-700RG29	-14 to 3000 psi -0.97 to 200 bar	0.1 psi 0.01 bar		10000 psi 690 bar
Fluke-700RG30	-14 to 5000 psi -0.97 to 340 bar	0.1 psi 0.01 bar		15000 psi 1035 bar
Fluke-700RG31	-14 to 10000 psi -0.97 to 690 bar	1 psi 0.01 bar		20000 psi 1380 bar

700R Ranges: Temperature Compensation 0 e°C to 50°C (32 °F to 122 °F) to rated accuracy.
For temperatures from -10 °C to 0 °C and 50 °C to 55 °C, add .005 % FS/°C

Media compatibility

- 10 inH_2O, 1, 15, 30 psi: any clean dry non-corrosive gas
- 100, 300, 500, 1000 psi: any liquids or gases compatible with 316 stainless steel and above 1000 psi: any non-flammable, non-toxic, non-explosive, non-oxidising liquid or gas compatible with 316 stainless steel.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

General Specifications (700G)

General Specifications (700G)	
Dimensions (HxWxD)	12.7 cm x 11.4 cm x 3.7 cm (5in x 4.5in x 1.5in)
Pressure connection	1/4 in NPT Male
Housing/Weight	Cast ZNAL 0.56 kg (1.22 lb) with holster
Display	5.5 digits, 16.53 mm (0.65 in) high 20-segment bar graph, 0 to 100%
Power	Three AA alkaline batteries
Battery life	1,500 hours without backlight (continuous on), 2,000 hours at slow sample rate
Warranty	Three years

Ordering information

Included accessories (Gauges)	Models			
Manual on CD-ROM in 14 languages Traceable certificate of calibration 1/4" NPT to 1/4" ISO adapter	FLUKE-700G01	Pressure Gauge, ±10 inH_20 WC (0.4 PSIG)	FLUKE-700G02	Pressure Gauge, ±30 inH_20 WC (1 PSIG)
	FLUKE-700G04	Pressure Gauge, ± 15 PSIG	FLUKE-700G05	Pressure Gauge, ± 30 PSIG
	FLUKE-700G06	Pressure Gauge, 100 PSIG	FLUKE-700G27	Pressure Gauge, 300 PSIG
	FLUKE-700G07	Pressure Gauge, 500 PSIG	FLUKE-700G08	Pressure Gauge, 1000 PSIG
	FLUKE-700G10	Pressure Gauge, 2000 PSIG	FLUKE-700G29	Pressure Gauge, 3000 PSIG
	FLUKE-700G30	Pressure Gauge, 5000 PSIG	FLUKE-700G31	Pressure Gauge, 10 000 PSIG
	FLUKE-700GA4	Pressure Gauge, 15 PSIA	FLUKE-700GA5	Pressure Gauge, ± 30 PSIA
	FLUKE-700GA6	Pressure Gauge, 100 PSIA	FLUKE-700GA27	Pressure Gauge, ± 300 PSIA
	FLUKE-700G05	Pressure Gauge, Reference 30 PSIG	FLUKE-700G06	Pressure Gauge, Reference 100 PSIG
	FLUKE-700G07	Pressure Gauge, Reference 500 PSIG	FLUKE-700G08	Pressure Gauge, Reference 1000 PSIG
	FLUKE-700G29	Pressure Gauge, Reference 3000 PSIG	FLUKE-700G30	Pressure Gauge, Reference 5000 PSIG
	FLUKE-700G31	Pressure Gauge, Reference 10 000 PSIG	700G/TRACK	Data logging software and cable
	FLUKE-700HTPK	Hydraulic test pump kit, 0 to 10000 PSI/690 BAR	FLUKE-PTPK	Pneumatic test pump kit, 0- 600 PSI/40 BAR

700G/TRACK Logging Software

- Use with 700G Series gauges to perform real time data logging to a PC
- Download logging configurations to the 700G Series gauges for a remote logging event
- Configure logging event reading rate, duration and measurement units
- Upload measurements logged remotely and display or export measurements
- Includes communication cable for connection to a PC

Recommended Kits

Fluke-700PTPK Pneumatic Test Kit

- Combine with any Fluke-700G Series Gauge, 1,000 psi (69 bar) or less, to make a complete pressure testing kit
- Generate pressure up to 600 psi, 40 bar with the 700PTP-1 test pump
- Connect the 700G Series gauge directly to the included PTP-1 hand pump
- Includes hoses and adapters for connecting to the pressure device to be tested
- Hard case protects pump and gauge and allows gauge to remain connected to the pump

Fluke 700HTPK Hydraulic Test Kit

- Combine with any Fluke-700G Series Gauge, 1,000 psi (69 bar) range or greater, to make a complete pressure testing kit
- Generate pressure up to 10,000 psi, 690 bar with the included 700HTP-2 test pump
- Connect the 700G Series gauge directly to the HTP-2 hand pump
- Includes 700HTH-1 hose kit and adapters for connecting to the pressure device to be tested
- Hard case protects pump and gauge and allows gauge to remain connected to the pump

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Calibration 2700G Series Reference Pressure Gauges

N10140

Fluke 2700G

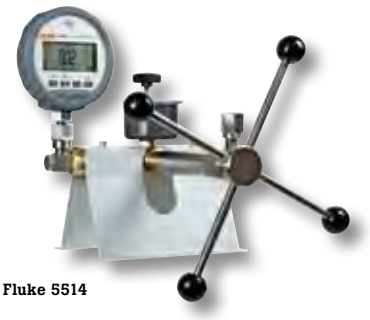
The 2700G Reference Pressure Gauges provide best-in-class measurement performance in a rugged, easy-to-use, economical package. Improved measurement accuracy allows it to be used for a wide variety of applications. It is ideal for calibrating pressure measurement devices such as pressure gauges, transmitters, transducers, and switches. In addition, it can be used as a check standard or to provide process measurements with data logging.

- Precision pressure measurement from 100 kPa (15 psi) to 70 MPa (10,000 psi)
- Accuracy to 0.02 % of full scale
- Easy-to-use, rugged construction for reliable performance
- Combine with a Fluke PTP or HTP pump kit or P551X comparison test pump for a complete pressure testing solution

Combine P5500 comparison test pumps with one or more 2700G reference pressure gauge for a complete 0.02 % accuracy calibration system:

- **P5510:** integrated pneumatic hand pump with pressure generation to 300 psi (2 MPa), vacuum to -12 psi (-80 kPa)
- **P5513:** pneumatic pressure adjustment to 3,000 psi (21 MPa) with fine adjust inlet and outlet valves and precise screw press
- **P5514:** hydraulic pressure generation and adjustment to 10 k psi (70 MPa) with fine screw press and reservoir
- **P5515:** integrated hydraulic pressure generation and adjustment to 20 k psi (140 MPa) with high volume priming pump and fine screw press

All P5500 comparison test pumps feature two pressure ports to connect both 2700G and the device to be tested. Test ports are unique o-ring design allowing quick, hand-tight operation to full pressure without the need for PTFE tape or wrenches. Includes adapters for 10 different NPT, BSP and metric sizes.



Fluke 5514

Fluke 5515

Ordering information

Included accessories	Models	
Items included with gauge: Manual on CD-ROM in 14 languages, calibration certificate, ¼ NPT female to ¼ BSP male adapter, ¼ NPT female to M20X1.5 adapter, universal AC power supply, USB communication cable	2700G-BG100K	Reference Pressure Gauge, -15 to 15 psi (-100 to 100 kPa)
	2700G-BG200K	Reference Pressure Gauge, -15 to 30 psi (-100 to 200 kPa)
	2700G-BG700K	Reference Pressure Gauge, -12 to 100 psi (-80 to 700 kPa)
	2700G-BG2M	Reference Pressure Gauge, -12 to 300 psi (-80 kPa to 2 MPa)
	2700G-BG3.5M	Reference Pressure Gauge, -12 to 500 psi (-80 kPa to 3.5 MPa)
	2700G-BG7M	Reference Pressure Gauge, -12 to 1000 psi (-80 kPa to 7 MPa)
	2700G-G20M	Reference Pressure Gauge, 0 to 3000 psi (0 to 20 MPa)
	2700G-G35M	Reference Pressure Gauge, 0 to 5000 psi (0 to 35 MPa)
	2700G-G70M	Reference Pressure Gauge, 0 to 10 000 psi (0 to 70 MPa)

Base model	Available ranges
P5510, gas/vacuum comparison test pump	Generation and control from vacuum to 300 psi (2 MPa)
P5513, high pressure gas comparison test pump	Ranges to 3000 psi (20 MPa)
P5514, hydraulic comparison test pump	Generation and control to 10 k psi (70 MPa)
P5515, hydraulic comparison test pump	Generation and control to 20 k psi (140 MPa)

Included accessories	Base model	Available ranges	Accuracy
Included: Accredited certificate of calibration, transportable carry cases, M20X1.5, M14X1.5 and 1/8 inch, 1/4 inch, 3/8 inch and 1/2 inch NPT and BSP female adapters, operating fluid (where applicable) and spare seals.	P301X and P302X gas/vacuum deadweight tester, 1 or 2 pistons	Ranges from vacuum to 500 psi (3.5 MPa)	0.15 % rdg (0.008 % optional)
	P303X, liquid lubricated gas deadweight tester, single piston	Ranges to 2000 psi (14 MPa)	0.15 % rdg (0.008 % optional)
	P31XX oil deadweight tester, 1 or 2 pistons	Ranges to 20 k psi (140 MPa)	0.15 % rdg (0.008 % optional)
	P32XX, water-operated deadweight tester, 1 or 2 pistons	Ranges to 10 k psi (70 MPa)	0.15 % rdg (0.008 % optional)
	P38XX, oil deadweight tester, single piston	Ranges to 60 k psi (400 MPa)	0.2 % rdg (0.015 % optional)

Fluke Calibration P5510 Pneumatic Comparison Test Pump

This pneumatic comparison test pump is designed for testing pressure measuring instruments against master test instruments. This cost effective instrument provides precise control for important calibration requirements and include many features found in our popular line of pneumatic deadweight testers.

Features include:
- Dual pressure/vacuum capability
- Bench mount design
- Built-in handpump as pressure/vacuum source
- High quality needle valve for fine control
- Test port adapters that require no PTFE tape or wrenches

Pressure range 0 to 2 MPa (300 psi)
Vacuum -80 kPa (-12 psi)

Higher pressure ranges available:

Fluke P5513 Gas Comparison Test Pump
Pressure range 0 to 20 MPa (3k psi)
Vacuum -80 kPa (-12 psi)

Fluke P5514 Gas Comparison Test Pump
Pressure range 0 to 70 MPa (10k psi)

Fluke P5515 Gas Comparison Test Pump
Pressure range 0 to 140 MPa (20k psi)

For more information on these test pumps, go to **http://as.flukecal.com**

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Calibration Pressure

Fluke P3000

N10140

Fluke P3000 Deadweight Testers

With features designed to improve accuracy and performance, increase reliability and simplify operation these high performance deadweight testers can be used to calibrate virtually any pressure sensing device, including transducers, transmitters, gauges or pressure switches.

- The piston/cylinder assemblies are manufactured to the very highest standards are are provided standard with ISO/IEC 17025 accredited Calibration reports. Pressure ranges to 20 000 psi (1 400 bar)
- Accuracy better than 0.015 % of reading (Increased accuracy option of 0.008 %)
- Mineral oil and distilled water models
- Dual piston models allow calibration over a wide range
- Psi, bar, kgf/cm2, kPa and MPa ranges available
- Dual piston models for calibration over a wide pressure range
- Built-in lever style hand pump now standard on all hydraulic models
- Acrylic reservoir provides visibility of fluid level and quality
- Built-in drain plug to remove old fluid

Accuracy	
Accuracy*	±0.015% of reading (±0.008% optional) *Accuracy based on % of reading from 10% to 100% of the piston range when used in accordance with the corrections found on the calibration certificate. Below 10% ± (accuracy class) x 10% of the piston range.
Mass and PCU Materials of Construction	
Standard weight material	Series 3 non-magnetic austenitic stainless steel
Weight density	7.8 g/cm³
Optional fractional weights	Solution heat treated aluminum
Weight density	2.7 g/cm³
Models P3011, P3012, P3013, P3022, P3023, P3025 (V)	Piston Material: Ceramic Cylinder Material: Martensitic steel Coefficient of Expansion: 11 ppm/°C
Models P3014, P3015, P3025 (P) P3031, P3032 (P & V)	Piston Material: Tungsten carbide Cylinder Material: Martensitic steel Coefficient of Expansion: 16.5 ppm/°C
Model P3016	Piston Material: Tungsten carbide Cylinder Material: Tungsten carbide Coefficient of Expansion: 11 ppm/°C
General	
Test port adaptors	1/8, 1/4, 3/8 and ½ NPT or BSP
Instrument weight	10.88kg (24lbs)
Instrument size	17.5 W x 12 D x 8.5 H
Mass set weight (typical)	29.48kg (65lbs)
Minimum Standard Weight Increments	
P3012, P3022 Pressure	1 inH20, (5 mbar)
P3013, P3023 Pressure	2 inH20, (10 mbar)
P3014, P3015, P3025 Pressure	1 psi, (0.1bar)
P3016, P3031, P3032	1 psi, (0.1bar)
P3011, P3022, P3023, P3025 Vacuum	0.2 inHg (10 mbar)
Optional Fractional Weights	
P3014, P3015, P3025 Pressure	0.1 psi (0.01 bar)
Built-in Hand Pumps	
Pressure mode	Max pressure 300 psi (20 bar)
Vacuum mode	To 90% vacuum

See page 70 for ordering information

PressCal Software

PressCal software provides a quick and effective solution to enhance the pressure measurement uncertainty of Deadweight Testers. PressCal features an easy-to-use user Interface that allows you to enter all the necessary corrections and parameters to accurately determine the pressure generated by the DWT.

PressCal also provides:
- Automatic certificate generation
- Customer details management
- Real-time auditing
- Choice of 12 pressure units

Recommended Accessories

P5531 Dirt/Moisture Trap
Designed to mount directly on the deadweight tester and featuring an acrylic chamber for visibility of contaminates this unit utilises the standard test port adapters for easy instrument connections.

P5532 Dirt/Moisture Trap
This high pressure version is provided with an aluminium central chamber for safety and utlises the standard test port adapters.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Calibration 6241 and 6242 PPC4E Gas Pressure Controllers

Fluke Calibration's 6241 and 6242 PPC4E Gas Pressure Controller Kits feature PPC4E models to cover a very wide workload combined with the accessories needed for a complete calibration system. Included is the Fluke Calibration SPLT self-purging liquid trap to capture moisture in the test line and automatically purge to prevent contamination of the PPC4E, the interconnect hardware and a test station with a quick connect fitting to mount your pressure device to be tested. The 6241 and 6242 kits provide the hardware for a complete gas calibration system.

N10140

- Precise pressure measurement and automated control, with ranges available from ±15 kPa to 14 MPa (± 2.2 psi to 2,000 psi)
- Switch between absolute, gauge and bidirectional gauge modes and meet easy-to-understand full-year measurement specifications without added hardware or special calibration or maintenance operations
- ± 0.02 % one-year accuracy of any selected Auto-range span, with Auto-range span as low as 1 % of device full scale. Up to 100:1 accurate ± 0.02 %.
- AutoTest™, AutoRange, ready/not ready indicator, set point jog feature, real-time measurement uncertainty display, RS-232 and IEEE-488.2
- Each device comes with an Accredited Calibration Certificate

Fluke Calibration 6531 and 6532 E-DWT Electronic Deadweight Tester Kits

Fluke 6531

N10140

E-DWT-H offers precision, low measurement uncertainty and the stability over time of a conventional deadweight tester without the inconveniences associated with the piston-cylinders, weights, hand pumps, and interconnecting plumbing.

- No weights to load and unload or regularly send out for calibration
- No need to know and correct for local gravity or ambient temperature
- No piston-cylinder changes; switch Q-RPT ranges in seconds
- Not sensitive to level or vibration
- Able to set and read any pressure value exactly, no minimum increment limited by smallest available masses
- Operates in any unit of measure while deadweight tester is typically limited to the pressure unit stamped on the mass
- Two year calibration interval supported at measurement uncertainty of ± 0.025 % of reading
- Each device comes with an Accredited Calibration Certificate

Specifications

General (6521/6532)	
Power Requirements	To RPM4-E-DWT: 12 V DC 1.2 A To AC to DC Power Supply: 100 V AC to 240 V AC, 50/60 Hz
Operating Temperature Range	10 °C to 40 °C (50 °F – 104 °F)
Storage Temperature Range	– 20 °C to 70 °C (–4 °F – 158 °F)
Relative Operating Humidity	0 % to 70 %
Relative Storage Humidity	0 % to 100 %
Weight	**1 Q-RPT:** 12 kg (26 lb) approximate **2 Q-RPT:** 14 kg (30 lb) approximate
Dimensions	**E-DWT Footprint:** 41.4 cm W x 37.1 cm D (16.3 in x 14.6 in) **E-DWT Height:** 26.9 cm (10.6 in), 33.6 cm (13.2 in) to max variable volume handle height
Pressure Range (Dependent on Q-RPT(s) included in RPM4-E-DWT)	200 MPa (30 000psi) with standard variable volume 100 MPa (15 000psi) with high volume variable volume
Operating Medium	All 6531 and 6532 E-DWT Kits are shipped dry, standard preparation. Can be filled with di-ethyl-hexyl sebacate, silicon oils, propylene glycol, fully fluorinated liquids, partially fluorinated liquids, isopropyl alcohol and distilled water or mineral oil.
Pressure Limits	Maximum Working Pressure: Range of RPM4-E-DWT monitor's Hi Q-RPT 200 MPa (30 000psi) with standard variable volume 100 MPa (15 000psi) with high volume variable volume Maximum Priming Pump Pressure: 700 kPa (100 psi) Maximum Working Pressure: With Lo Q-RPT selected: Range of RPM4-E-DWT monitor's Lo Q-RPT Communication Ports: RS-232 (COM1, COM2)
Pressure Measurement	
Warm up time	15 minute temperature stabilization recommended from cold power up
Normal operating temperature range	10 °C to 40 °C (50 °F to 104 °F)
Resolution	Default: 0.01 % of active range User adjustable to 1 ppm of Q-RPT maximum or 10 ppm of active AutoRange, whichever is greater
Precision[1]	± 0.018 % of reading or 0.0018 % of Q-RPT span, whichever is greater
Predicted Stability[2]	**One Year:** ± 0.0075 % of reading **Two Year:** ± 0.015 % of reading
Measurement Uncertainty[3]	**One Year:** ± 0.02 % of reading or 0.002 % of Q-RPT span, whichever is greater **Two Year:** ± 0.025 % of reading or 0.0025 % of Q-RPT span, whichever is greater

FLUKE®

Fluke 750P Series Pressure Modules

Precision pressure measurement for 75X and 720 series calibrators

The 750P Series Pressure Modules are the ideal pressure modules to enable gage, differential and absolute pressure measurement with Fluke 750 and 740 series DPCs and 725, 726 MPCs to measure pressure.

- 0.025 % reference uncertainty
- 6-month and 1-year specifications
- Temperature compensated 0 °C to 50 °C
- Digital communication to calibrators, no analog losses or errors
- Broad selection of ranges
- Gage, differential, dual range, absolute and vacuum measurement models

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

For more information, go to www.fluke.com/my/pressure

FLUKE ®

General Specifications

Model	Parameter/Range	Burst Rating[6]	Hi Side Media[2]	Lo Side Media[2]	Reference Uncertainty[4]	Total Uncertainty 1-year (15–35 ˚C)	Total Uncertainty 1-year[1]	Total Uncertainty 6-month (15–35 ˚C)	Total Uncertainty 6-month[1]
Differential									
750P00	0 to 1 in H_2O (0 to 2.5 mBar)	30X	Dry Air	Dry Air	±0.15 %	± 0.3 %	± 0.35 %	± 0.25 %	± 0.30 %
750P01	0 to 10 in H_2O (0 to 25 mBar)	3X	Dry Air	Dry Air	±0.1 %	± 0.2 %	± 0.3 %	± 0.15 %	± 0.25 %
750P02	0 to 1 psi (0 to 70 mBar)	3X	Dry Air	Dry Air	±0.050 %	± 0.1 %	± 0.15 %	± 0.075 %	± 0.125 %
750P22	0 to 1 psi (0 to 70 mBar)	3X	316 SS	Dry Air	±0.050 %	± 0.1 %	± 0.15 %	± 0.075 %	± 0.125 %
750P03	0 to 5 psi (0 to 350 mBar)	3X	Dry Air	Dry Air	±0.02 %	± 0.04 %	± 0.05 %	± 0.035 %	± 0.04 %
750P23	0 to 5 psi (0 to 350 mBar)	4X	316 SS	Dry Air	±0.02 %	± 0.04 %	± 0.05 %	± 0.035 %	± 0.04 %
750P04	0 to 15 psi (0 to 1 bar)	3X	Dry Air	Dry Air	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P24	0 to 15 psi (0 to 1 bar)	4X	316 SS	Dry Air	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
Gage									
750P05	0 to 30 psi (0 to 2 bar)	4X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P06	0 to 100 psi (0 to 7 bar)	4X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P27	0 to 300 psi (0 to 20 bar)	4X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P07	0 to 500 psi (0 to 35 bar)	4X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P08	0 to 1000 psi (0 to 70 bar)	3X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P09	0 to 1500 psi (0 to 100 bar)	3X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P2000	0 to 2000 psi (0 to 140 bar)	3X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
High									
750P29	0 to 3000 psi (0 to 200 bar)	3X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P30	0 to 5000 psi (0 to 340 bar)	3X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750P31	0 to 10000 psi (0 to 700 bar)	2X	316 SS	N/A	±0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
Absolute									
750PA3	0 to 5 psia (0 to 350 mBar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA4	0 to 15 psia (0 to 1 bar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA5	0 to 30 psia (0 to 2 bar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA6	0 to 100 psia (0 to 7 bar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA27	0 to 300 psia (0 to 20 bar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA7	0 to 500 psia (0 to 35 bar)	4X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA8	0 to 1000 psia (0 to 70 bar)	3X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PA9	0 to 1500 psia (0 to 100 bar)	3X	316 SS	N/A	±0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
Vacuum									
750PV3	-5 psi (-350 mBar)	4X	316 SS	Dry Air	± 0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PV4	-15 psi (-1 bar)	4X	316 SS	Dry Air	± 0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
Dual									
750PD2	-1 to 1 psi (-70 to 70 mBar)	4X	316 SS	Dry Air	± 0.05 %	± 0.1 %	± 0.15 %	± 0.075 %	± 0.125 %
750PD3	-5 to 5 psi (-350 to 350 mBar)	4X	316 SS	Dry Air	± 0.03 %	± 0.06 %	± 0.07 %	± 0.05 %	± 0.06 %
750PD10	-10 to 10 psi (-700 to 700 mBar)	4X	316 SS	Dry Air	± 0.025 %	± 0.05 %	± 0.07 %	± 0.04 %	± 0.06 %
750PD4	-15 to 15 psi (-1 to 1 bar)	4X	316 SS	Dry Air	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750PD5	-15 to 30 psi (-1 to 2 bar)	4X	316 SS	–	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750PD50	-15 to 50 psi (-1 to 3.5 bar)	4X	316 SS	–	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750PD6	-15 to 100 psi (-1 to 7 bar)	4X	316 SS	–	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
750PD7	-15 to 200 psi (-1 to 14 bar)	4X	316 SS	–	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03v%	± 0.04 %
750PD27	-15 to 300 psi (-1 to 20 bar)	4X	316 SS	–	± 0.0175 %	± 0.035 %	± 0.045 %	± 0.03 %	± 0.04 %
Reference									
750R04[5]	0 to 15 psi (0 to 1 bar)	3X	Dry Air	Dry Air	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R06[5]	0 to 100 psi (0 to 7 bar)	4X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R27	0 to 300 psi (0 to 20 bar)	4X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R07	0 to 500 psi (0 to 35 bar)	4X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R08[5]	0 to 1000 psi (0 to 70 bar)	3X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R29	0 to 3000 psi (0 to 200 bar)	3X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R30	0 to 5000 psi (0 to 340 bar)	3X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750R31[5]	0 to 10000 psi (0 to 700 bar)	2X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750RD5	-15 to 30 psi (-1 to 2 bar)	4X	Dry Air	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750RD6[5]	-12 to 100 psi (-1 to 7 bar)	4X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS
750RD27	-12 to 300 psi (-0.8 to 20 bar)	4X	316 SS	–	± 0.01 % of FS	± 0.02 % of FS	± 0.04 % of FS	± 0.015 % of FS	± 0.035 % of FS

1. Total uncertainty, % of full span for temperature range 0 °C to +50 °C, one year interval. Total uncertainty, 1.0% of full span for temperature range -10 °C to 0 °C, one year interval. No 6 month specification available for range -10 °C to 0 °C.
2. "NONCORROSIVE GASSES" indicates dry air or non-corrosive gas as compatible media. "Stainless Steel 316-SS" indicates media compatible with Type 316 Stainless Steel.
3. Specifications % of Full Span unless otherwise noted.
4. * Reference Uncertainty is the specification for as left data for 24 hours.
5. When reference class modules are used with fixed resolution products (717, 718, 719 series, 725 and 726) calibrators add ± 1 count to the overall accuracy specification.
6. Burst rating specification refers to the multiplier times full scale of the module for the rated burst pressure.

Ordering Information

Included accessories	Models	Pressure Module					
Manual, traceable calibration certificate, and adapters.	FLUKE-750P00	0 psi to 1 psi in H_2O (0 to 2.5 mBar), (0 to 0.25 kPa)	FLUKE-750PA3	0 psi to 5 psi (0 to 350 mBar), (0 to 35 kPa)	FLUKE-750PD6	-15 psi to 100 psi (-1 to 7 bar), (-100 to 700 kPa)
	FLUKE-750P01	0 psi to 10 psi in H_2O (0 to 25 mBar),(0 to 2.5 kPa)	FLUKE-750PA4	0 psi to 15 psi (0 to 1 bar), (0 to 100 kPa)	FLUKE-750PD7	-15 psi to 200 psi (-1 to 14 bar), (-100 to 1400 kPa)
	FLUKE-750P22	0 psi to 1 psi (0 to 70 mBar), (0 to 7 kPa)	FLUKE-750PA5	0 psi to 30 psi (0 to 2 bar), (0 to 200 kPa)	FLUKE-750PD27	-15 psi to 300 psi (-1 to 20 bar), (-100 to 2000 kPa)
	FLUKE-750P23	0 psi to 5 psi (0 to 350 mBar), (0 to 35 kPa)	FLUKE-750PA6	0 psi to 100 psi (0 to 7 bar), (0 to 700 kPa)	FLUKE-750R04	0 psi to 15 psi (0 to 1 bar) (0 to 100 kPa)
	FLUKE-750P04	0 psi to 15 psi (0 to 1 bar), (0 to 100 kPa)	FLUKE-750PA27	0 psi to 300 psi (0 to 20 bar), (0 to 2000 kPa)	FLUKE-750R06	0 psi to 100 psi (0 to 7 bar), (0 to 700 kPa)
	FLUKE-750P24	0 psi to 15 psi (0 to 1 bar), (0 to 100 kPa)	FLUKE-750PA7	0 psi to 500 psi (0 to 35 bar), (0 to 3500 kPa)	FLUKE-750R27	0 psi to 300 psi (0 to 20 bar), (0 to 2000 kPa)
	FLUKE-750P05	0 psi to 30 psi (0 to 2 bar), (0 to 200 kPa)	FLUKE-750PA8	0 psi to 1000 psi (0 to 70 bar), (0 to 7000 kPa)	FLUKE-750R07	0 psi to 500 psi (0 to 35 bar), (0 to 3500 kPa)
	FLUKE-750P06	0 psi to 100 psi (0 to 7 bar), (0 to 700 kPa)	FLUKE-750PA9	0 psi to 1500 psi (0 to 100 bar), (0 to 10 MPa)	FLUKE-750R08	0 psi to 1000 psi (0 to 70 bar), (0 to 7000 kPa)
	FLUKE-750P27	0 psi to 300 psi (0 to 20 bar), (0 to 2000 kPa)	FLUKE-750PV3	-5 psi (-350 mBar), (-35 kPa)	FLUKE-750R29	0 psi to 3000 psi (0 to 200 bar), (0 to 20 MPa)
	FLUKE-750P07	0 psi to 500 psi (0 to 35 bar), (0 to 3500 kPa)	FLUKE-750PV4	-15 psi (-1 bar), (-100 kPa)	FLUKE-750R30	0 psi to 5000 psi (0 to 340 bar), (0 to 34 MPa)
	FLUKE-750P08	0 psi to 1000 psi (0 to 70 bar), (0 to 7000 kPa)	FLUKE-750PD2	-1 psi to 1 psi (-70 to 70 mBar), (-7 to 7 kPa)	FLUKE-750R31	0 psi to 10000 psi (0 to 700 bar), (0 to 700 MPa)
	FLUKE-750P09	0 psi to 1500 psi (0 to 100 bar), (0 to 10 MPa)	FLUKE-750PD3	-5 psi to 5 psi (-350 to 350 mBar), (-35 to 35 kPa)	FLUKE-750RD5	-15 psi to 30 psi (-1 to 2 bar), (-100 to 200 kPa)
	FLUKE-750P2000	0 psi to 2000 psi (0 to 140 bar), (0 to 14 MPa)	FLUKE-750PD10	-10 psi to 10 psi (-0.7 to 0.7 bar), (-70 to 70 kPa)	FLUKE-750RD6	-12 psi to 100 psi (-0.8 to 7 bar), (-80 to 700 kPa)
	FLUKE-750P29	0 psi to 3000 psi (0 to 200 bar), (0 to 20 MPa)	FLUKE-750PD4	-15 psi to 15 psi (-1 to 1 bar), (-100 to 100 kPa)	FLUKE-750RD27	-12 psi to 300 psi (-0.8 to 20 bar), (-80 to 2000 kPa)
	FLUKE-750P30	0 psi to 5000 psi (0 to 340 bar), (0 to 34 MPa)	FLUKE-750PD5	-15 psi to 30 psi (-1 to 2 bar), (-100 to 200 kPa)	FLUKE-750P03	0 psi to 5 psi (0 to 350 mBar), (0 to 35 kPa)
	FLUKE-750P31	0 psi to 10000 psi (0 to 700 bar), (0 to 70 MPa)	FLUKE-750PD50	-15 psi to 50 psi (-1 to 3.5 bar), (-100 to 350 kPa)	FLUKE-750P02	0 psi to 1 psi (0 to 70 mBar), (0 to 7 kPa)

Field Calibrator Accessories

Fluke 700 Series Pressure Modules

- Ranges from 2.5 mbar to 700 bar.
- Gage, differential, dual (compound), absolute and vacuum modules
- Very high accuracy: up to 0.025% FS
- Features internal temperature compensation from 0°C to 50°C for full-accuracy performance
- Pressure readings update twice per second, and may be displayed in any of 11 different units
- Compatible with Fluke 717, 718, 725 and 75X Series.
- Rugged cases protect the modules from harsh environments
- All modules include NIST traceable certificate and test data
- ATEX certified Ex versions available (Ex II 1 Eex ia IIB T4)

Model		Range (approx.)	Resolution uncertainty (23 ± 3°C) (FS)	Reference	High side media	Low side media	Fitting material	Max overpressure[2]
Differential								
700P00		2.5 mbar	0.001 mbar	0.3 %	Dry [1]	Dry [1]	316 SS	30x
700P01/700P01Ex	Ex	25 mbar	0.01 mbar	0.2 %	Dry	Dry	316 SS	3x
700P02		70 mbar	0.007 mbar	0.15 %	Dry	Dry	316 SS	3x
700P22		70 mbar	0.007 mbar	0.1 %	316 SS	Dry	316 SS	3x
700P03		340 mbar	0.01 mbar	0.05 %	Dry	Dry	316 SS	3x
700P23		340 mbar	0.01 mbar	0.025 %	316 SS	Dry	316 SS	3x
700P04		1000 mbar	0.1 mbar	0.025 %	Dry	Dry	316 SS	3x
700P24/700P24Ex	Ex	1001 mbar	0.1 mbar	0.025 %	316 SS	Dry	316 SS	3x
Gage								
700P05/700P05Ex	Ex	2 bar	0.1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P06/700P06Ex	Ex	7 bar	0.7 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P27/700P27Ex	Ex	20 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P07		34 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P08		70 bar	7 mbar	0.025 %	316 SS	N/A	316 SS	3x
700P09/700P09Ex	Ex	100 bar	10 mbar	0.025 %	316 SS	N/A	316 SS	2x
Absolute								
700PA3		340 mbar	0.01 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA4/700PA4Ex	Ex	1000 mbar	0.1 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA5		2 bar	0.1 mbar	0.05 %	316 SS	N/A	316 SS	3x
700PA6		7 bar	0.7 mbar	0.05 %	316 SS	N/A	316 SS	3x
Vacuum								
700PV3		-340 mbar	0.01 mbar	0.04 %	316 SS	Dry	316 SS	3x
700PV4		-1000 mbar	0.1 mbar	0.04 %	316 SS	Dry	316 SS	3x
Dual								
700PD2		± 70 mbar	0.007 mbar	0.15 %	316 SS	Dry	316 SS	3x
700PD3		± 340 mbar	0.01 mbar	0.04 %	316 SS	Dry	316 SS	3x
700PD4		±1000 mbar	0.1 mbar	0.025 %	316 SS	Dry	316 SS	3x
700PD5		-1000/+2000 mbar	0.1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700PD6		-1000 mbar/+6.9 bar	1 mbar	0.025 %	316 SS	N/A	316 SS	3x
700PD7		-1000 mbar/+13.8 bar	1 mbar	0.04 %	316 SS	N/A	316 SS	3x
High								
700P29/700P29Ex	Ex	200 bar	0.01 bar	0.05 %	C276	N/A	C276	2x
700P30		340 bar	0.01 bar	0.05 %	C276	N/A	C276	2x
700P31		700 bar	0.07 bar	0.05 %	C276	N/A	C276	1.5x

1)"Dry" indicates dry air or non-corrosive gas as compatible media. "316 S S" indicates media compatible with Type 316 Stainless Steel. "C276" indicates media compatible with Hastelloy C276.
2)Maximum overpressure specification includes common mode pressure.

Additional Accessories/Kits

Fluke 700PTPK
Pneumatic Test Kit

Fluke 700HTPK
Hydraulic Test Kit

700PTP-1 Pneumatic Test Pump-1
- Handheld pressure pump
- Pressures up to 600 psi, 40 bar

700HTP-2 Hydraulic Test Pump
- Pressures up to 10,000 psi/690 bar.

700PRV-1 Pressure Relief Valve
- Pressure relief valve for 700HTP-1
- Adjustable from 725 to 5800 PSI (50 to 200 bar)

700ILF In-Line Filter for the Fluke 718

700PCK Pressure Module Calibration Kit

BE9005 Battery Eliminator

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Intrinsically Safe Products

Intrinsically Safe Test Tools for Hazardous Areas

Calibrators, Thermometers and Multimeters designed to intrinsic safety standards.

Intrinsically Safe is a protection method employed in potentially explosive atmospheres. Certificate IS tools are designed to prevent the release of sufficient energy to cause ignition of flammable material. IS standards apply to all equipment that can create one or more of a range of defined potential explosion sources.

ATEX – The primary intrinsically safe standard, which has been set in the European Union with the Directive 94/9/EC, commonly called ATEX (Atmosphères Explosibles), French for explosive atmospheres.

NEW

Fluke 568 Ex Intrinsically Safe Infrared thermometer
With a rugged, easy-to-use, ergonomic design,the Fluke 568 Ex can stand up to tough industrial,electrical, and mechanical environments. Meets intrinsically safe certifications in Class I Div 1 and Div 2 or Zone 1 and 2 hazardous environments from recognised safety agencies around the world.

II 2 G Ex ia IIC T4

Fluke 707Ex Fast, one-handed tool for loop checks
The Fluke 707Ex is the ideal, stand alone tool for calibration and maintenance of 4 to 20 mA control loops. It provides 24V loop power while measuring mA, and lets you measure and source/stimulate mA with 1 µA resolution.

II 2 G Ex ia IIC T4

Fluke 718Ex Self-contained Pressure Calibrator
The Fluke 718Ex offers a convenient, self contained solution for pressure measurements and calibration. With its internal pressure sensor and pump, it's ready for immediate, stand alone use. The pressure range can easily be extended to up to 200 bar with any of the 8 Fluke 700PEx Pressure Modules.

II 1 G Ex ia IIC T4

Fluke 725Ex Intrinsically Safe Multifunction Process Calibrator
The Fluke 725Ex Intrinsically Safe Multifunction Process Calibrator is powerful yet easy-to-use. Combined with the Fluke 700PEx Pressure Modules, the 725Ex is able to calibrate almost any process instrument likely to need service in any area where explosive gases may be present.

II 1 G Ex ia IIB 171 °C

Fluke 700PEx Pressure Modules
These intrinsically safe pressure modules for use with the Fluke 725Ex Multifunctional Process Calibrator and Fluke 718Ex Pressure Calibrator cover the most commonly used pressure calibration ranges from 0–25 mbar and 0–200 bar. There's a choice of 8 gage, differential and absolute modules.

II 1 G Ex ia IIC T4

Ordering information

Models	
FLUKE-568Ex	IS Infrared Thermometer
FLUKE-707Ex	IS Loop Calibrator
FLUKE-718Ex	IS Pressure Calibrator
FLUKE-725Ex	IS Multifuction Process Calibrator
FLUKE-700PEx	Pressure Modules (700P: 01, 5, 6, 9, 24, 27, 29, A4Ex)
FLUKE-28 II Ex	IS True-rms Multimeter
FLUKE-700G	Pressure Test Gage, (23) models. See page 68 for full details

NEW

Pressure Gauges

Fluke-700G Series Pressure Gauges

- ATEX rating: II 3 G Ex nA IIB T6
- Accuracy to 0.05 % of full scale
- CSA Class I, Div. 2 Groups A-D rating
- Precision pressure measurement from ±10 inH20/20mbar to 10,000 psi/690 bar
- Absolute pressure measurement ranges 15, 30, 100, 300 psia

See page 68, for more information

Specialty Models

Fluke 28 II Ex Intrinsically Safe True-rms Multimeter

ANZEx 12.2008x Ex ia I Ma

Fluke 28 II Ex Intrinsically safe True-rms Digital Multimeter
Now there's one intrinsically safe digital multimeter (DMM) you can use in IIC (gas) Zone 1 and 2 and IIIC (dust) Zone 21 and 22 areas. Whether you work in petroleum, chemical, or pharmaceutical environments, all the test and troubleshooting power you need is packed into the most rugged intrinsically safe (IS) DMM Fluke has ever built. The Fluke 28II Ex is also water-proof, dust-proof and drop-proof.

- CAT III 1000V/CAT IV 600V electrical safety rating

II 2 G Ex ia IIC T4

N10140

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

ScopeMeters®

Fluke ScopeMeter® Test Tools

Handheld oscilloscopes for industrial, instrumentation and electronic applications

ScopeMeter test tools are the rugged, safe choice for a wide variety of field service installation and maintenance applications. These handheld battery-powered oscilloscopes are easy to use, with a built-in multimeter, paperless recording and analysis capabilities. They are rugged and IP 51 dust- and drip-proof rated to IEC529 standards to withstand harsh environments.

The new 190 Series II, with two and four isolated input channels and 60 MHz, 100 MHz, 200 MHz or 500 MHz bandwidth, are ideal for industrial electronics, automation, process control, and industrial machinery applications measuring three-phase power electronic circuits, or three-axis control systems comparing and contrasting multiple signals simultaneously. These tools are safety rated at CAT III 1000 V/CAT IV 600 V with longer battery life and up-to-date USB interface technology.

The 120 series with 20 MHz or 40 MHz bandwidth, dual DMMs and paperless recording is the optimal choice for electrical and electro-mechanical applications, safety rated to IEC EN61010-1 CAT III 600 V.
For Industrial network applications, the Fluke 125 adds industrial network physical layer analogue measurement algorithms to validate the network bus health.

Selection guide

	120 Series			190 Series II						
	123	124	125	190-062	190-102	190-202	190-104	190-204	190-502	190-504
Bandwidth										
20 MHz	•	–	–	–	–	–	–	–	–	–
40 MHz	–	•	•	–	–	–	–	–	–	–
60 MHz	–	–	–	•	–	–	–	–	–	–
100 MHz	–	–	–	–	•	–	•	–	–	–
200 MHz	–	–	–	–	–	•	–	•	–	–
500 MHz	–	–	–	–	–	–	–	–	•	•
Input channels										
2Ch + 2 DMM	•	•	•	–	–	–	–	–	–	–
2Ch + DMM	–	–	–	•	•	•	–	–	•	–
4Ch	–	–	–	–	–	–	•	•	–	•
Isolated inputs	–	–	–	•	•	•	•	•	•	•
Triggering										
Connect-and-View	•	•	•	•	•	•	•	•	•	•
Advanced triggering	–	–	–	•	•	•	•	•	•	•
Advanced measurement function										
Cursors	–	•	•	•	•	•	•	•	•	•
TrendPlot	•	•	•	•	•	•	•	•	•	•
ScopeRecord	–	–	–	•	•	•	•	•	•	•
100 screen replay	–	–	–	•	•	•	•	•	•	•
Industrial BusHealth	–	–	•	–	–	–	–	–	–	–
Harmonics	–	–	•	–	–	–	–	–	–	–
FFT	–	–	–	•	•	•	•	•	•	•
Power measurements	–	–	•	•	•	•	•	•	•	•
Waveform mathematics	–	–	•	•	•	•	•	•	•	•
EN61010-1 safety										
CAT II 1000 V	–	–	–	•	•	•	•	•	•	•
CAT III 600 V	•	•	•	•	•	•	•	•	•	•
CAT III 1000 V	–	–	–	•	•	•	•	•	•	•
CAT IV 600 V	–	–	–	•	•	•	•	•	•	•
Interface										
Optical RS-232	•	•	•	–	–	–	–	–	–	–
USB PC interface	Opt	Opt	Opt	•	•	•	•	•	•	•
USB memory port	–	–	–	•	•	•	•	•	•	•
Power										
Ni-MH	•	•	•	–	–	–	–	–	–	–
Li-Ion	–	–	–	•	•	•	•	•	•	•
Battery (hours)	7	7	7	4 (opt 8)	4 (opt 8)	4 (opt 8)	7	7	7	7
General specifications										
Size (HxWxD)	232 mm x 115 mm x 50 mm (9.2 in x 4.5 in x 2 in)			270 mm x 190 mm x 70 mm (10.5 in x 7.5 in x 2.8 in)						
Weight	1.2 kg (2.6 lb)			2.2 kg (4.8 lb)						

Fluke 120 series ScopeMeter® Test Tools

Fluke 123 Fluke 125 Fluke 124

Three-in-one simplicity

The compact ScopeMeter® Series 123 are the rugged solution for industrial troubleshooting and installation applications. Each is a truly integrated test tool, with oscilloscope, multimeter and "paperless" recorder in one affordable, easy-to-use instrument. Find fast answers to problems in machinery, instrumentation, control and power systems.

Electrical Safety 600 V CAT III · True RMS · N10140

- Dual-input 40 MHz or 20 MHz digital oscilloscope
- Two 5,000-count true-rms digital multimeters
- A dual-input TrendPlot™ recorder
- Connect-and-View™ trigger simplicity for hands-off operation
- Shielded test leads for oscilloscope, resistance and continuity measurements
- Bus Health mode gives a clear "Good/Weak/Bad" indication for the electrical signals on industrial buses and networks (Fluke 125)
- CAT III 600 V safety certified
- Optically isolated RS-232 interface
- IP51 rated, rugged compact case

Connect-and-View™ triggering for an instant, stable display

Scope users know how difficult triggering can be. Incorrect settings show unstable and sometimes incorrect results. Fluke's unique Connect-and-View recognises signal patterns and automatically and continuously sets up correct triggering. It provides a stable, reliable and repeatable display of virtually any signal.

Use TrendPlot™ to help find intermittents

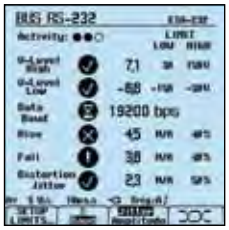
The toughest faults to find are those that happen only once in a while—intermittents. They can be caused by bad connections, dust, dirt, corrosion or simply broken wiring or connectors. Other factors, like line outages and sags, can also cause a machine to stop. You may not be around to see it—your Fluke ScopeMeter will. In this "paperless recorder" mode, you can plot the minimum and maximum peak values and average over time—up to 16 days.

Battery powered mobility

Up to seven hours of battery operation frees you from mains outlets for true on-the-move working. The rugged and drip proof case assures long life and reliable operation in the harshest industrial environments.

Safety rated

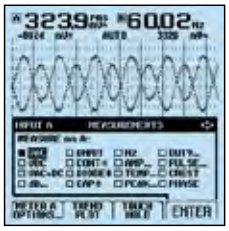
The ScopeMeter 123 and 124 are safety rated for measurements on CAT III 600 V rms industrial power systems with the included test leads.



125 quickly tests critical bus physical layer characteristics.

Connect-and-View captures even the most complex motor drive signals.

Use TrendPlot to help find intermittents, fast.



Dual input oscilloscope, meter and paperless recorder.

Recommended Accessories

AC120
Alligator Clip Set

i30s
AC/DC Current Clamp
See page 106

DP120
Differential Probe Kit

i410
AC/DC Current Clamp
See page 106

C125
Soft Carrying Case
See page 99

i5s
AC Current Clamp

BHT190
Bus Health Test Adapter, DB-9 and M-12

Recommended Kit

SCC 120 Kit
- Software
- Cable
- Hard carrying case

Ordering information

Included accessories	Models	
Test lead set, alligator clips, hook clips, battery pack, battery charger/line voltage adapter, BNC adapter, getting started guide, users manual on CD.	FLUKE-124S	Industrial ScopeMeter, 40 MHz, with SCC120 kit
	FLUKE-124	Industrial ScopeMeter, 40 MHz
	FLUKE-123S	Industrial ScopeMeter, 20 MHz, with SCC120 kit
	FLUKE-123	Industrial ScopeMeter, 20 MHz
Test lead set, battery charger/line voltage adapter, battery pack (installed), getting started guide, multi-lingual users manual on CD.	FLUKE-125	Industrial ScopeMeter, Bus Health, Power and Harmonics
	FLUKE-125S	Industrial ScopeMeter, Bus Health, Power and Harmonics with SCC-Kit
	SCC120	Kit containing FlukeView software for Windows, USB interface adapter/cable and hard case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 190 Series II ScopeMeter® Test Tools

See more, fix more, in harsh industrial environments

Fluke 190-204

Goes where ordinary scopes can't go

Safety rated for industrial applications, the 190 Series ScopeMeter® Portable Oscilloscopes combine rugged portability with high performance to take you all the way from troubleshooting microelectronics to power electronic applications.

The first high-performance four-channel scopes built for harsh industrial environments

For the first time, plant maintenance engineers and technicians can take a high-performance four-channel scope into the harsh world of industrial electronics. The new Fluke 190 Series II is the only portable oscilloscope with two or four independent isolated input channels, a CAT III 1000 V/CAT IV 600 V safety rating, and sealed case IP 51 dust-proof and drip-proof rated.

- 60 MHz, 100 MHz or 200 MHz bandwidth
- 2 or 4 independent isolated inputs, up to 1000 V
- High-speed sampling: Up to 2.5 GS/sec
- Deep memory: 10,000 points per trace waveform capture
- CAT III 1000 V/CAT IV 600 V safety rated for high voltage environments
- 5,000 count multimeter 2 channel models or 999 count volt meter 4 channel models
- Li-Ion battery and easy-access battery door for extended usage
- Isolated USB host port for direct data storage to a USB memory
- USB-B-device port for PC Connectivity
- Sealed compact case weighing only 2.2 kg (4.8 lb)

Automatic capture and replay of 100 screens

ScopeMeter users know how frustrating it is to see a one-time anomaly flash by—never to be seen again. Now with the Fluke 190 Series II ScopeMeter you can look back in time with a touch of the replay button. In normal use, the instrument continuously memorises the last 100 screens, on a first in-first out basis. At any moment you can "freeze" the last 100 screens and scroll through picture-by-picture or replay as a "live" animation. Cursors can be used for further analysis.

ScopeRecord™ mode for high-resolution waveform recording up to 48 hours

ScopeRecord memory stores up to 27,000 data points per channel, capturing fast intermittents and glitches as short as 8ns.

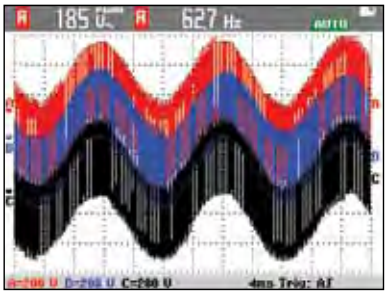
- Stores events like motion profiles, UPS, power supply and motor start-ups
- In Stop On Trigger mode, ScopeMeter automatically recognises a power failure and stores the waveform data
- With the waveform zoom (up to 100x) you can look at the smallest details, like individual power cycles

TrendPlot™ Paperless Recorder

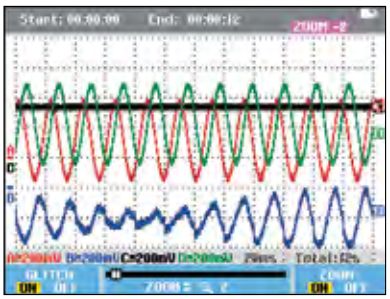
The toughest faults to find are those that happen once in a while. These intermittents can be caused by bad connections, dust, dirt, corrosion, or simple broken wiring or connectors. Line outages, sags or starting and stopping of a motor can also cause a machine to stop. You may not be around when it happens, but the Fluke ScopeMeter will.

- Plot minimum and maximum plot values and average over time up to 16 days
- Plot any combination of voltages, amps, temperature, frequency and phase for all four inputs, all with time and date stamp to pinpoint faults

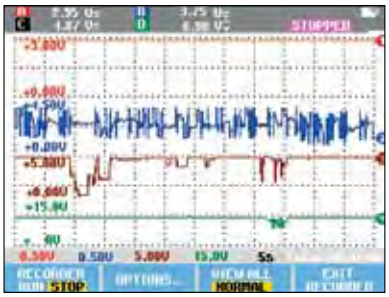
Sample screens



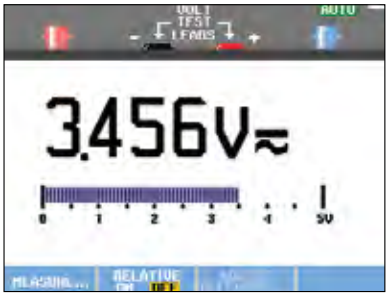
Connect-and-View™ captures even the most complex motor drive signals.



Use the 27,000 points memory of ScopeRecord and zoom in for maximum detail.



Cursors and zoom features of the Fluke 190 Series II help you to analyse the captured TrendPlot.



5,000 count dedicated digital multimeter on 2 channel models.

Ordering information

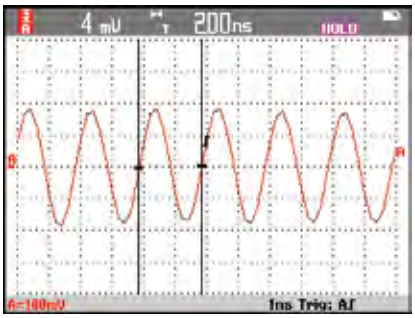
Included accessories	Models	
Battery charger/mains adapter, Li-Ion battery pack, voltage probe sets, test leads, handstrap affixed to instrument, hangstrap (user selectable for left- or righthand use), multi-language users manuals on CD-ROM, FlukeView® demo package (with restricted functionality), USB interface cable for PC connectivity.	FLUKE-190-204	Colour ScopeMeter, 200 MHz, 4 channels
	FLUKE-190-204/S	Colour ScopeMeter, 200 MHz, 4 channels, with SCC-290 kit included
	FLUKE-190-104	Colour ScopeMeter, 100 MHz, 4 channels
	FLUKE-190-104/S	Colour ScopeMeter, 100 MHz, 4 channels, with SCC-290 kit included
	FLUKE-190-202	Colour ScopeMeter, 200 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-202/S	Colour ScopeMeter, 200 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	FLUKE-190-102	Colour ScopeMeter, 100 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-102/S	Colour ScopeMeter, 100 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	FLUKE-190-062	Colour ScopeMeter, 60 MHz, 2 channels plus DMM/Ext.input
	FLUKE-190-062/S	Colour ScopeMeter, 60 MHz, 2 channels plus DMM/Ext.input, with SCC-290 kit included
	SCC290	Kit containing FlukeView software for Windows, USB interface adapter/cable and hard case

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

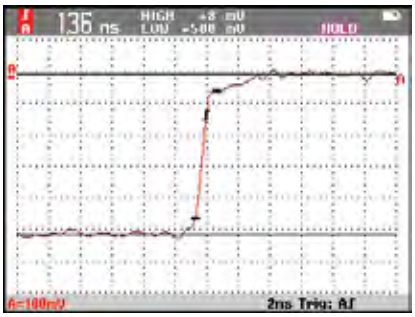
Fluke 190-504 ScopeMeter® Handheld Oscilloscope

Fluke 190-504

1000 V CAT III 600 V CAT IV
1000 V CAT II 600 V CAT III
ISO 9001
CE
C SP® US
N10140



Accurately capture noise, distortion and other signal characteristics with 500 MHz bandwidth and 5 GS/sec sampling rate.



1.7 ns rise time response accurately captures signals with fast edges with signs of reflections.

500 MHz, 5 GS/sec—the legacy of leadership continues

After 20 years, Fluke ScopeMeter® industrial scopes still lead, now with the markets only 500 MHz bandwidth 4 channel handheld oscilloscope.

The Fluke 190 Series II extends your troubleshooting arsenal, showing you waveform shape, timing, distortion and disturbance in greater detail than ever before. Two- and four-channel models fit any application, measuring signals from 60 MHz to 500 MHz. ScopeMeter® test tools are number one in ruggedness, the only completely sealed, drip-proof, dustproof IP51 rated handheld scopes.

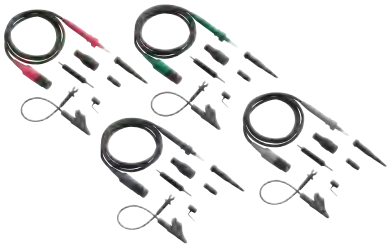
- Up to four independent floating isolated inputs, up to 1000 V
- Up to 5 GS/s real time sampling (depending on model and channels used)
- Deep memory: 10,000 points per trace waveform capture (scope mode)
- CAT III 1000 V/CAT IV 600 V safety rated instrument for industrial environments
- Up to seven hours of battery operation using BP291
- Isolated USB host port for direct data storage to a USB memory device; USB device port for easy PC communication
- Easy access battery door for quick battery swaps in the field
- Compact and only 2.2 kg (4.8 lb)

The first four- and two-channel scopes built for CAT IV industrial environments

The new 190-504 combines rugged portability with the performance of a hi-powered bench scope, and takes troubleshooting microelectronics all the way into power electronic applications. See more, fix more, and go where you've never gone with a scope before.

Recommended Accessories

"S" version kit includes mainframe and carry case and software



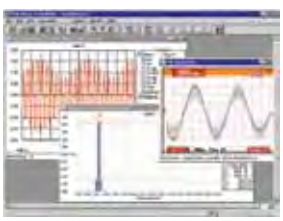
VPS510-x
Red, Green, Blue and Grey Voltage Probes

TRM50
50 Ohm Termination

FlukeView ScopeMeter Software for documenting, archiving and analysis

Get more out of your ScopeMeter with FlukeView® ScopeMeter® SW90W Software for Windows.

- Documentation—transfer waveforms, screens and data to your PC for printing or importing data into a report
- Add text to ScopeMeter settings—give operators guidance when recalling settings
- Archive—create a library of waveforms for easy reference, waveform comparison, or pass/fail testing
- Analysis—use cursors, perform spectrum analysis or export data to another analysis program



Ordering information

Included accessories	Models	
Battery charger/mains adapter, li-ion battery pack, voltage probe sets, 50 Ohm terminator, test leads, and strap affixed to instrument, hangstrap (user selectable for left- or righthand use), multilanguage users manuals on CD-ROM, FlukeView® demo package (with restricted functionality), USB interface cable for PC connectivity.	FLUKE-190-502/UN	Colour ScopeMeter, 500 MHz, 2 channels plus DMM/Ext. input
	FLUKE-190-502/UN/S	Colour ScopeMeter, 500 MHz, 2 channels plus DMM/Ext. input, with SCC-290 kit included
	FLUKE-190-504/UN	Color ScopeMeter, 500 MHz, 4 channels
	FLUKE-190-504/UN/S	Color ScopeMeter, 500 MHz, 4 channels with SCC-290 kit included

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Infrared Cameras

Fluke Ti Series Infrared Cameras

Infrared Cameras: Uptime or Downtime. Your Results Matter.

Fluke strives to create infrared cameras that are intuitive and easy to use with advanced focusing features that integrate the accuracy of distance laser technology and auto focus – so you get in-focus images every, single, time with LaserSharp™ Auto Focus. Blend digital and infrared images into one clear image with Fluke patented IR-Fusion®. The Fluke line of infrared cameras are not just about accuracy, they are about reliability, durability, image quality and performance.

IR-Fusion® Technology: Infrared and visual images fused together in one image

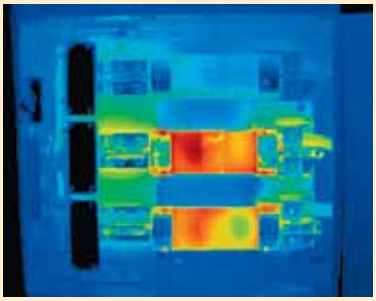
See things both ways - Infrared and visual (visible light) images fused together communicating critical information faster and easier – traditional infrared images are no longer enough. Patented IR-Fusion® Technology, only available from Fluke, simultaneously captures a digital photo and the infrared image and fuses them together taking the mystery out of IR image analysis.

Find it, fix it, fast!

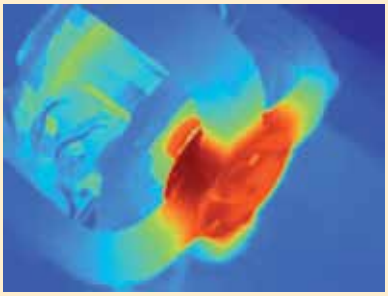
Temperature changes can indicate problems in many areas you see everyday, some include:

- **Inside electrical distribution and service** (Switch gear, panels, controls, fuses,transformers, receptacles, lighting, conductors, bus bars, motor control centres)
- **Motors, pumps and mechanical** (Electric motors and generators, pumps, compressors, evaporators, bearings, couplings, gearboxes, gaskets/seals, belts, rollers, disconnects)
- **Process** (Tanks and vessels, pipes, valves and traps, reactors, process insulation)
- **HVAC/R** (Air conditioning, heating, air handlers, refrigeration)
- **Outside electrical distribution - utilities** (Transformers, bushings, insulators, transmission lines, other exterior conductors, service connections, disconnects, capacitor banks)

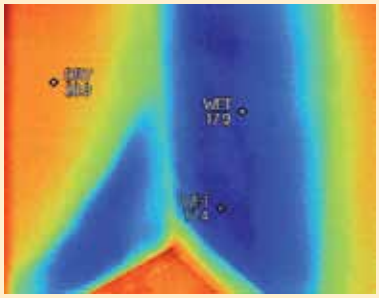
Overheating bearing cap



Three-phase switch-gear load imbalance

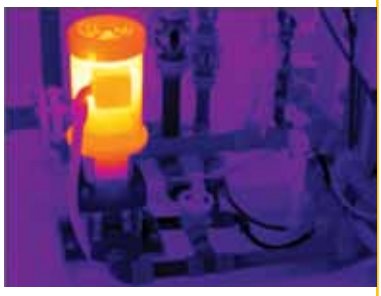


Overheated motor



Cool corner in a building

The flexibility of Fluke IR-Fusion® technology



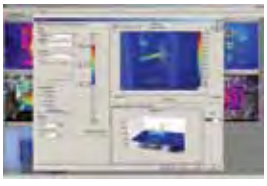
Full infrared.

IR-Fusion® Picture-in-picture, AutoBlend™ mode.

IR-Fusion® with colour alarms.

IR-Fusion® Full visible light – viewed in SmartView® software.

IR-Fusion™



SmartView® Software

Fluke SmartView® software is included with each Fluke Infrared Camera. This powerful software is a modular suite of tools that annotates, views, edits and analyses IR images. It also generates fully customisable and professional-looking reports in a few easy steps. The IR-Fusion technology is fully supported.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Ti400, Ti300 and Ti200 Advanced Performance Infrared Cameras

A new generation of tools with next generation performance.

This trio of new Fluke Infrared Cameras are equipped with LaserSharp™ AutoFocus. Yes, there are other auto focus systems on the market but Fluke took it one step further so you get in-focused images, Every. Single. Time.

Ti400 Infrared Camera with LaserSharp™ Auto Focus and Wireless Connectivity

- Optimised for electrical, industrial and building applications
- -20 °C to +1200 °C
- 320x240 detector
- Detect and communicate issues faster with patented Fluke IR-Fusion® with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- Capture up to five additional measurements with CNX™ Wireless System for more complete analysis and reporting
- One-handed, easy-to-use user interface
- Ruggedised capacitive high-resolution 640X480 touch screen for quick menu navigation

Ti300 Infrared Camera with LaserSharp™ Auto Focus and Wireless Connectivity

- Optimised for electrical, industrial and building applications
- -20 °C to +650 °C
- 240x180 detector
- Detect and communicate issues faster with patented Fluke IR-Fusion® with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- Capture up to five additional measurements with CNX™ Wireless System for more complete analysis and reporting
- Video recording both standard and radiometric
- Rechargeable, field replaceable smart batteries with LED display to show charge levels for excellent field flexibility

N10140

Ti200 Infrared Camera with LaserSharp™ Auto Focus and Wireless Connectivity

- Optimised for electrical, industrial and building applications
- -20 °C to +650 °C
- 200x150 detector
- Detect and communicate issues faster with patented Fluke IR-Fusion® with AutoBlend™ mode
- Faster communication with wireless image transfer directly to your PC, Apple® iPhone® or iPad®
- Capture up to five additional measurements with CNX™ Wireless System for more complete analysis and reporting
- Optional interchangeable lenses for greater flexibility in specialised applications
- Cardinal Compass

Ordering information

Included accessories	Models	
Thermal imager with standard infrared lens; AC power supply and battery pack charger (including mains adapters); two, rugged lithium ion smart battery packs; Micro SD memory card with SD adapter; 3m USB cable; 3m HDMI video cable; SmartView® software with free software upgrades for life; rugged, hard carrying case; soft transport bag; adjustable hand strap; printed users manual (five languages); CD user manual; warranty registration card.	FLK-Ti400 9 Hz	Industrial-Commercial Infrared Camera, 9Hz
	FLK-Ti400 60 Hz	Industrial-Commercial Infrared Camera, 60Hz
	FLK-Ti300 9 Hz	Industrial-Commercial Infrared Camera, 9Hz
	FLK-Ti300 60 Hz	Industrial-Commercial Infrared Camera, 60Hz
	FLK-Ti200 9 Hz	Industrial-Commercial Infrared Camera, 9Hz
	FLK-Ti200 60 Hz	Industrial-Commercial Infrared Camera, 60Hz

For more information, go to www.fluke.com/my

Recommended Accessories

FLK-LENS/TELE2
Telephoto infrared lens (2x magnification)

FLK-LENS/WIDE2
Wide-angle infrared lens

FLK-TI-VISOR3
Thermal imager visor

TI-TRIPOD3
Tripod mounting base accessory

BOOK-ITP
Introduction to Thermography Principles Book

Announcing the new SmartView® Mobile App

Bring your office to your inspection site with the SmartView Mobile App. Create an inspection report on site and communicate directly to your client or manager via your Apple® iPhone® or iPad®.

Optimise: Adjust the image to present problems in the most effective way.

Analyse: Use markers and other tools to quantify the severity of problems.

Communicate: Share inspection results by emailing images or reports to:

- Plan next steps or gain approval for work done before you even leave the job site
- If needed, get assistance analysing the problem

Fluke SmartView Mobile will increase the return on your infrared camera investment.

It's not just about working faster – it's about working smarter.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Specifications

	Ti400	Ti300	Ti200
Temperature			
Temperature measurement range (not calibrated below –10 °C)	–20 °C to +1200 °C (–4 °F to +2192 °F)	–20 °C to +650 °C (–4 °F to +1202 °F)	
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)		
On-screen emissivity correction	Yes (by number and table)		
On-screen reflected background temperature compensation	Yes		
On-screen transmission correction	Yes		
Imaging performance			
Image capture frequency	9 Hz refresh rate or 60 Hz refresh rate depending upon model variation		
Detector type	Focal Plane Array, uncooled microbolometer, 320 x 240 pixels	Focal Plane Array, uncooled microbolometer, 240 X 180 pixels	Focal Plane Array, uncooled microbolometer, 200 X 150 pixels
Thermal sensitivity (NETD)	≤ 0.05 °C at 30 °C target temp (50 mK)		≤ 0.075 °C at 30 °C target temp (75 mK)
Total pixels	76,800	43,200	30,000
Infrared spectral band	7.5 µm to 14 µm (long wave)		
Visual (visible light) camera	Industrial performance 5.0 megapixel		
Standard infrared lens type			
Field of view	24 ° x 17 °		
Spatial resolution (IFOV)	1.31 mRad	1.75 mRad	2.09 mRad
Minimum focus distance	15 cm (approx. 6 in)		
Optional telephoto infrared lens type			
Field of view	12 ° x 9 °		
Spatial resolution (IFOV)	0.65 mRad	0.87 mRad	1.05 mRad
Minimum focus distance	45 cm (approx. 18 in)		
Optional wide-angle infrared lens type			
Field of view	46 ° x 34 °		
Spatial resolution (IFOV)	2.62 mRad	3.49 mRad	4.19 mRad
Minimum focus distance	15 cm (approx. 6 in)		
Focus mechanism			
LaserSharp™ Auto Focus System	Yes		
Advanced Manual Focus	Yes		
Image presentation			
Palettes			
Standard	Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted		
Ultra Contrast™	Ironbow Ultra, Blue-Red Ultra, High Contrast Ultra, Amber Ultra, Amber Inverted Ultra, Hot Metal Ultra, Grayscale Ultra, Grayscale Inverted Ultra		
Level and span	Smooth auto-scaling and manual scaling of level and span		
Fast auto toggle between manual and auto modes	Yes		
Fast auto-rescale in manual mode	Yes		
Minimum span (in manual mode)	2.0 °C (3.6 °F)		
Minimum span (in auto mode)	3.0 °C (5.4 °F)		
IR-Fusion® information			
Picture-In-Picture (PIP)	Yes		
Full screen infrared	Yes		
AutoBlend™ mode	Yes		
Color alarms (temperature alarms)	High-temperature , low-temperature, and isotherm (user-selectable)		
Image capture and data storage			
Image capture, review, save mechanism	One-handed image capture, review, and save capability		
Storage medium	Micro SD Memory Card, on-board flash memory, save-to-USB capability, direct download via USB-to-PC connection		
File formats	Non-radiometric (.bmp) or (.jpeg) or fully-radiometric (.is2) Video*: non-radiometric (MPEG – encoded .AVI) and fully-radiometric (.IS3)		
	No analysis software required for non-radiometric (.bmp, .jpg and .avi*) files		
Export file formats w/SmartView® software	BMP, DIB, GIF, JPE, JFIF, JPEG, JPG, PNG, TIF, and TIFF		
Memory review	Thumbnail view navigation and review selection		
Other time-saving and productivity features			
Voice annotation	60 seconds maximum recording time per image; reviewable playback on imager		
IR-PhotoNotes™	Yes		
Wi-Fi connectivity	Yes, to PC, iPhone®, iPad® and WiFi to LAN*		
Text annotation*	Yes		
Video recording*	Standard and Radiometric		
Streaming Video	Via USB to PC and HDMI to HDMI compatible screen		
CNX™ Wireless System*	Yes*		
Cardinal Compass*	Yes*		
Auto capture (temperature and interval)*	Yes*		
Remote control and operation (for special and advanced applications)	Yes	No	No

Fluke Ti125, Ti110, Ti105 and Ti100

Industrial-Commercial Infrared Cameras

NEW

Fluke Ti125

Fluke Ti110

Fluke Ti100

Fluke Ti105

N10140

CNX Wireless Enabled

A Fluke infrared camera can save you time and money by finding potential problems before they become costly failures. With the innovative features and functionality in the Fluke Ti125, Ti110, Ti105 and Ti100 imagers, you can perform infrared inspections faster and more efficiently and thoroughly document problem areas for additional follow-up.

Key features

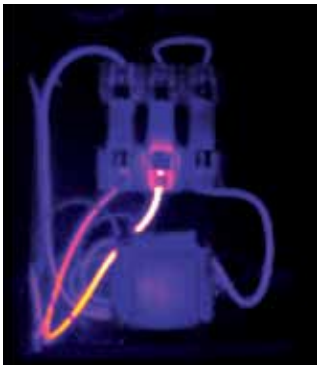
- Exclusive IR-OptiFlex™ focus system—ensures that images are in good focus from 1.2 metres and beyond for optimum image clarity and scanning convenience. For shorter distances change to manual mode with the touch of a finger (Ti110 and Ti125)
- Capture additional measurements fast and conveniently from up to five Fluke CNX wireless modules at once
- Always have references handy IR-PhotoNotes™ annotation system—Quickly identify and keep track of inspection locations by adding digital images of important information and surrounding areas (Ti110 and Ti125)
- Find problems faster and easier with Fluke IR-Fusion® technology (Ti125, Ti110, Ti105). Accurately identify potential issues by combining digital and IR images
- Get further clarification with AutoBlend™ mode—the blending of a digital and partially transparent IR image into a single information-filled image (Ti125 only)
- Multi-mode video recording—focus-free video in visible light and infrared with full IR-Fusion. (Ti110 and Ti125 only)
- Easily communicate the location of problems with the Electronic 8-Point Cardinal Compass (Ti110 and Ti125 only)

Specifications

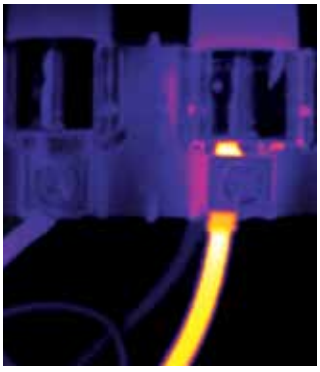
	Ti125	Ti110	Ti105	Ti100
	Industrial-Commercial			General use
CNX Wireless enabled	Yes			
IR resolution (FPA size)	160 x 120 FPA Uncooled Microbolometer			
Spectral band	7.5 µm to 14 µm (long wave)			
Capture or refresh rate	9 Hz or 30 Hz versions			9 Hz
NETD (Thermal sensitivity)	≤ 0.10 °C at 30 °C target temp (100 mK)			
FOV (Field of view)	22.5 °H x 31 °V			
IFOV (Spatial resolution)	3.39 mRad			
Temperature measurement range (not calibrated below -10 °C)	-20 °C to +350 °C (-4 °F to +662 °F)	-20 °C to +250 °C (-4 °F to +482 °F)		
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)			
Focus mechanism	IR-OptiFlex™ focus system		Focus-free 1.2 m (4 ft) and beyond	
IR-Fusion® technology	PIP, FULL IR, FULL VISIBLE, AutoBlend™	PIP, FULL IR, FULL VISIBLE	PIP (1.2 m (4 ft) to 4.6 m (15 ft)), FULL IR, FULL VISIBLE	No, full IR only
Colour alarms	High temperature, low temperature, isotherm	High temperature	–	
Standard palettes	Blue-Red, Grayscale, Inverted Grayscale, High-contrast, Hot Metal, Ironbow, Amber, Inverted Amber		Blue-Red, Ironbow, Grayscale, Amber	
Ultra Contrast™ palettes	Blue-Red, Grayscale, Inverted Grayscale, High-contrast, Hot Metal, Ironbow, Amber, Inverted Amber	Blue-Red, Grayscale, Ironbow	–	
Hot/Cold markers	Yes	–		

New features – Ti1XX Series

The Fluke IR-OptiFlex™ focus system difference



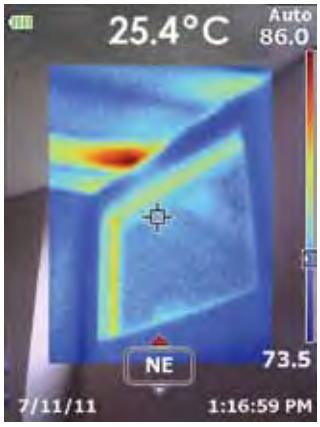
From 1.2 m (4 ft) and beyond, you're in clear focus.



Plus, you have the option to manually focus for closer views.

Electronic Compass

Make sure you and others know the location of the problem. Compass readings easily appear in images and reports.



Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Specifications continued

	Ti125	Ti110	Ti105	Ti100
	Industrial-Commercial			General use
User definable spot markers	Three on camera and in SmartView®		in SmartView® only	
Centrepoint	Yes			
Centrebox (MIN/AVG/MAX)	Yes	–		
Level and span control	Manual and auto			
Minimum span in auto mode	5 °C			
Minimum span in manual mode	2.5 °C			
Minimum IR focus distance	15.25 cm (6 in)		122 cm (48 in)	
Weight	0.726 kg (1.6 lb)			
Size	28.4 x 8.6 x 13.5 cm (11.2 x 3.4 x 5.3 in)			
LCD display	3.5 inch diagonal (portrait format)			
Visible camera	2 megapixel industrial-grade			N/A
Minimum parallax	~45.7 – 55.9 cm (~ 18 in – 22 in)		~122 cm (48 in)	N/A
IR-PhotoNotes™ annotation system	Yes (3 images)		–	
Laser pointer	Yes			
Torch	Yes			–
Electronic (cardinal) compass	Yes		–	
Emissivity correction	Yes			
Transmission correction	Yes		–	
Background (reflected) compensation	Yes			
Voice annotation (audio)	Yes (60 seconds) per image		–	
Video output	Streaming USB video output (infrared, visible and IR-Fusion modes)	–		
Video recording (standard avi w/mpeg encoding)	Yes (AVI with MPEG encoding, up to 5 minutes)		–	
Video recording (radiometric .is3)	Yes, radiometric .is3 for approx. 2.5 to 5 minutes depending upon thermal scene	–		
Memory review	thumbnail review			
Battery (field-replaceable, rechargeable)	Two	One		
Battery life	4+ hours (each)*			
External battery charging base	Yes	Optional (accessory)		
Charging power supply	Yes			
Drop test	2 metre			
Ingress protection (IP) rating (IEC 60529)	IP54			
Recommended calibration cycle	Two-years			
Multifunction card reader	Included	–		
Memory storage	2 GB SD memory card			
Direct download capability	mini USB download direct to PC			
Operating temperature range	-10 °C to +50 °C (14 °F to 122 °F)			
Storage temperature range	-20 °C to +50 °C (-4 °F to 122 °F)			
Operating humidity	Operating and storage 10 % to 95 %, non-condensing			
Vibration and shock	2G, IEC 68-2-26 and 25G, IEC 68-2-29			
Safety standards	CSA (US and CAN): C22.2 No. 61010-1-04, UL: UL STD 61010-1 (2nd Edition), ISA: 82.02.01			
C Tick	IEC/EN 61326-1			
EMI, RFI, EMC	EN61326-1; FCC Part 5			
User manuals	Czech, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, Turkish, Dutch, and Hungarian			
Standard warranty period	Two-years (additional optional extended warranty available)			
Extended warranty and service plans	Yes			

*Assumes 50 % brightness of LCD.

Ordering information

Included accessories	Models	
Infrared cameras are shipped with AC power adapter, lithium ion smart battery (Ti125 includes 2 each, other models 1 each), USB cable, SD memory card, hard carrying case, soft transport bag, adjustable hand strap (left- or right-handed use), printed users manual, all other manuals on CD, SmartView® software and warranty registration card. Ti125 models also include a two-bay charging base and a multi-format USB memory card reader.	FLK-Ti125 30 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti125 9 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti110 30 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti110 9 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti105 30 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti105 9 Hz	Industrial-Commercial Infrared Camera
	FLK-Ti100 9 Hz	General Use Infrared Camera

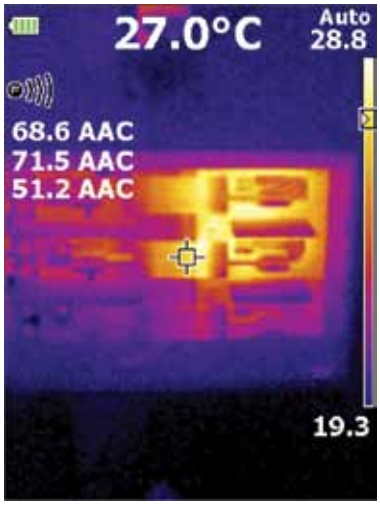
New features cont.

IR-Fusion® technology

The industry's first point-and-shoot IR-Fusion technology camera gives you aligned digital and infrared images.

Excellent alignment in Picture-in-Picture mode.

Capture additional measurements with Fluke CNX Wireless Modules



Up to five additional measurements can be added to your thermal image with Fluke CNX wireless modules.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Ti Series Buildings Infrared Cameras

Optimised for energy audits and building inspection

Whether you're searching for air leaks, hidden moisture, construction defects, or other building issues, a Fluke thermal imager delivers a huge competitive advantage—it allows you to work faster and more efficiently, and document your findings.

Key features:

- Exclusive IR-OptiFlex™ focus system—ensures that images are in good focus from 1.2 m (4 ft) and beyond for optimum image clarity and scanning convenience. For shorter distances change to manual mode with the touch of a finger (TiR110 and TiR125).
- Always have references handy—IR-PhotoNotes™ annotation system. Quickly identify and keep track of inspection locations by adding digital images of important information and surrounding areas (TiR110 and TiR125).
- Find problems faster and easier with Fluke IR-Fusion® technology (TiR125, TiR110, TiR105). Accurately identify potential issues by combining digital and IR images.
- Capture additional measurements fast and conveniently from up to five wireless modules at once using your Fluke thermal imager and CNX™ wireless modules.
- Get further clarification with AutoBlend™ mode – the blending of a digital and partially transparent IR image into a single information-filled image (TiR125 only).
- Multi-mode video recording—focus-free video in visible light and infrared with full IR-Fusion (TiR110 and TiR125 only).
- Easily communicate the location of problems with the Electronic 8-Point Cardinal Compass (TiR125 and TiR110 only).

Spend less time in the field and more time growing your business with these new Fluke thermal imagers.

Fluke TiR105 Fluke TiR110 Fluke TiR125

N10140

Specifications

	For building diagnostics use			For general use
	TiR125	TiR110	TiR105	Ti100
Infrared resolution	160 x 120	160 x 120	160 x 120	160 x 120
Focus mechanism	IR-OptiFlex™ focus system	IR-OptiFlex™ focus system	Focus-free: 1.2 m (4 ft) and beyond	Focus-free: 1.2 m (4 ft) and beyond
Thermal sensitivity (NETD)	≤ 0.08 °C at 30 °C target temp (80 mK)	≤ 0.08 °C at 30 °C target temp (80 mK)	≤ 0.08 °C at 30 °C target temp (80 mK)	≤ 0.10 °C at 30 °C target temp (100 mK)
Temperature measurement range	–20 °C to +150 °C (–4 °F to +302 °F)	–20 °C to +150 °C (–4 °F to +302 °F)	–20 °C to +150 °C (–4 °F to +302 °F)	–20 °C to +250 °C (–4 °F to +482 °F)
Temperature measurement accuracy	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)	± 2 °C or 2 % (at 25 °C nominal, whichever is greater)
IR-Fusion® technology	Full infrared, PIP, Full visible, AutoBlend™, Color alarms	Full infrared, PIP, Full visible, Color alarm	PIP 1.2m (4 ft) to 4.6m (15 ft), FULL IR, FULL VISIBLE	Full infrared only
IR-Photonotes® annotation system	Yes	Yes	—	—
Electronic compass	Yes	Yes	—	—
Multi-mode video recording	.AVI w/ MPEG encoding and .IS3 radiometric	.AVI w/ MPEG encoding	—	—
Voice annotation	Yes (60 seconds)	Yes (60 seconds)	—	—
Laser pointer/torch	Laser pointer and torch	Laser pointer and torch	Laser pointer and torch	Laser pointer
Streaming video output	USB video output	—	—	—
Rechargeable batteries (4+ hours each)	2 rugged lithium-ion smart batteries	1 rugged lithium-ion smart battery	1 rugged lithium-ion smart battery	1 rugged lithium-ion smart battery
Ruggedness and reliability	2-meter drop test, IP54 and integrated lens cap	2-meter drop test, IP54 and integrated lens cap	2-meter drop test, IP54 and integrated lens cap	2-meter drop test, IP54 and integrated lens cap
Weight	0.726 kg (1.63 lb)	0.726 kg (1.63 lb)	0.726 kg (1.63 lb)	0.726 kg (1.63 lb)
Warranty	2 years with additional warranty available			

Ordering information

Included accessories	Models	
AC power adapter, lithium ion smart battery (TiR125 includes two each—other models one each), USB cable, SD memory card, SmartView® software, hard carrying case, soft transport bag, adjustable hand strap (left- or right-handed use), users manual and warranty registration card. TiR125 model also includes a two-bay charging base and a multi-format USB memory card reader.	FLK-TiR125 9 Hz	Building Diagnostics Infrared Camera
	FLK-TiR110 9 Hz	Building Diagnostics Infrared Camera
	FLK-TiR105 9 Hz	Building Diagnostics Infrared Camera

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke SmartView® Software

Analysis and reporting software

Powerful

Everything you need for image optimisation, analysis and reporting.

- Extensive optimisation tools and viewing options with full IR-Fusion® capabilities
- Complete analysis tools including CNX measurements to characterise potential problems
- Multiple reporting options and templates to generate reports with the push of a button or completely customise professional reports

View, optimise and analyse infrared video recordings

- SmartView tools and controls allow easy access to viewing and editing functions
- Step through videos frame by frame and convert frames to still images for analysis and to include in reports

Fluke Training Solutions

Getting started with Fluke Infrared Cameras

Unsure where to begin with your new infrared camera?
Don't worry. Fluke utilises an extensive network of industry experts to deliver a full portfolio of training solutions.

- **Free online webinars**
- **Hands-on training seminars**
- **Advanced training**

See page 110 for Fluke Training and Seminars.

Fluke CV Series ClirVu® Infrared Windows

Fluke CV200 Fluke CV300

Fluke CV400

N10140

Compliance without compromise. Safety without sacrifice.

NEW

Increase the safety and speed of electrical thermal imaging inspections with the new Fluke ClirVu® IR Windows. Reduce the risk of arc-flash and electrocution, increase the safety of your personnel and reduce the time and cost of preventive maintenance.

- No more removing the panel door for installation
- Work permit requirements are significantly reduced
- Full PPE is often not required so inspections are done faster and more comfortable

Recommended Accessories

BOOK-ITP
Introduction to Thermography Principles Book

FLK-LENS/TELE1
Telephoto Infrared Lens

FLK-LENS/WIDE1
Wide-Angle Infrared Lens

TI-CAR-CHARGER
Infrared Camera Car Charger

TI-VISOR
Infrared Camera Sun Visor

TI-SBP3
Smart Battery Pack

TI-SBC3
Charging Base

TI-TRIPOD
Ti Tripod Mounting Base

For models Ti125, TiR125, Ti110, TiR110, TiR105, Ti100 only

TI-VISOR2
Sun Visor

TI-TRIPOD2
Tripod Mounting Accessory

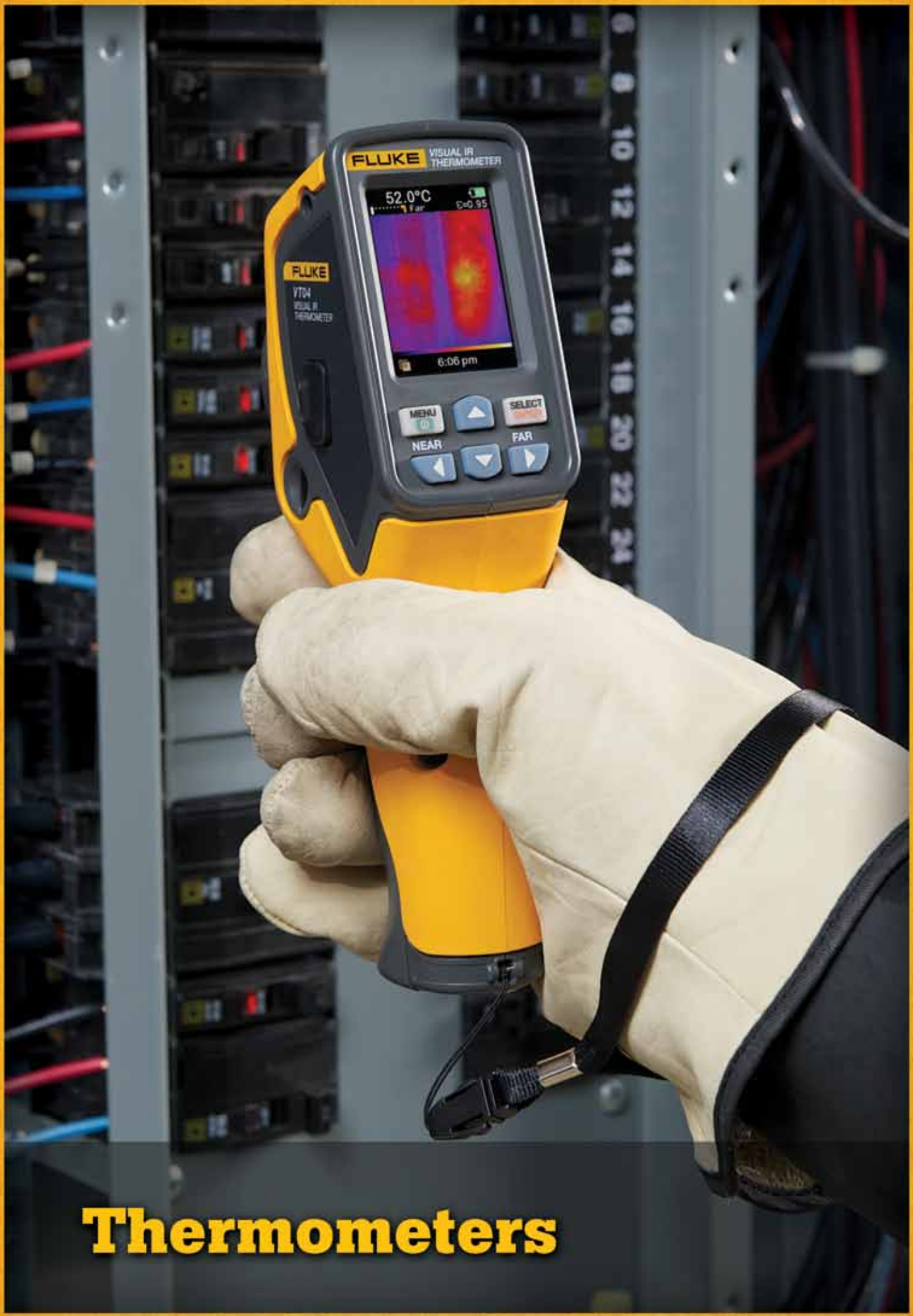
Specifications

	CV400	CV401	CV300	CV301	CV200	CV201
Optic insert diameter	95 mm (3.74 in)		75 mm (2.96 in)		50 mm (1.97 in)	
Viewing aperture diameter	87.63 mm (3.450 in)		67.95 mm (2.675 in)		42.93 mm (2.675 in)	
Viewing aperture area	6032 sq.mm (9.35 sq.in)		3626 sq.mm (5.62 sq.in)		1445 sq.mm (2.24 sq.in)	
Warranty	Lifetime replacement against manufacturing defects					

Ordering information

Included accessories	Models	
Fluke IR Windows are supplied complete, assembled and ready for installation. In addition to the IR Window each carton contains warranty statement and security key if that option is ordered.	CV200	50 mm (2 in) IR Window, Hand Turn Door Latch
	CV201	50 mm (2 in) IR Window, Security Key Door Latch
	CV300	75 mm (3 in) IR Window, Hand Turn Door Latch
	CV301	75 mm (3 in) IR Window, Security Key Door Latch
	CV400	95 mm (4 in) IR Window, Hand Turn Door Latch
	CV401	95 mm (4 in) IR Window, Security Key Door Latch

Contact your local distributor for price and availability.
www.fluke.com/my/wtb



Thermometers

Fluke 560 Series Infrared Thermometers

Fluke 568

N10140

CAUTION
LASER RADIATION DO NOT STARE INTO BEAM
CLASS II (2) LASER PRODUCT
OUTPUT: <1mW
WAVELENGTH: 630-670 nm
COMPLIES WITH FDA 21 CFR 1040.10,11

Fluke 566 and 568 IR and Contact Thermometers

With a straight-forward user interface and soft-key menus, the Fluke 566 and 568 make even complex measurements easy. With just a few pushes of a button you can easily adjust emissivity, start data logging, or turn on and off alarms. With a rugged, easy-to-use design, the Fluke 566 and 568 can stand up to tough industrial, electrical, and mechanical environments.

- Measure up to 800 °C (1470 °F)
- Easily access advanced features with the soft-key buttons and graphical display
- Measure smaller objects from further away
- Compatibility with most type K thermocouples
- Confidently measure more surfaces, with adjustable emissivity and built-in materials table
- Log and download measurements for reporting (568)
- Two levels of backlight
- Audible and visual alarms alert you to measurements outside of set limits
- Min/Max/Avg/Dif functions
- Includes KTC bead probe
- 1 % measurement accuracy
- Versatile interface with six languages

Choose your language

Select the measurement surface

See complete measurement details in seconds

Specialty models

Fluke 561 Infrared and Contact Thermometer

The Fluke 561 combines the temperature measurement functions that professionals need for most HVAC and industrial jobs, all in one tool.

- Pipe probe for superheat and sub-cooling and other contact and ambient measurements
- Min/Max/Dif functions help you quickly identify problems
- Scan large areas or small objects quickly and efficiently

Fluke-568 Ex Intrinsically Safe Infrared Thermometer

- Measure –40 °C to 800 °C (–40 °F to 1472 °F)
- 50:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Display Resolution 0.1 ˚C of reading
- Adjustable emissivity and predefined emissivity table
- Data storage and review (99 data sets)
- Conductive case for carrying into hazardous areas
- Safety Certification ATEX/IECEx for Class1, Div 1 and Div 2 or Zone 1 and 2 hazardous environments

Intrinsically safe model on page 75.

Recommended Accessories

80PK-11
Pipe Clamp Probe
See page 103

80PK-27
Industrial Surface Temperature Probe
See page 103

80PK-8
Pipe Clamp Probe
See page 104

80PK-18
Pipe Clamp Probe Kit
See page 104

80PK-22
SureGrip™ Immersion Probe
See page 103

C1600
Gear Tool Box
See page 99

Specifications

Models	Fluke 561	Fluke 566	Fluke 568/568 Ex
Infrared temperature range	–40 °C to 535 °C (–40 °F to 1022 °F)	–40 °C to 650 °C (–40 °F to 1200 °F)	–40 °C to 800 °C (–40 °F to 1470 °F)
Accuracy	greater of ± 1 % or ± 1 °C (2 °F)		
Distance to Spot (D:S)	12:1	30:1	50:1
Sighting	Laser point		
Typical distance to target	Up to 2.5 m (7 ft)	Up to 4.5 m (15 ft)	Up to 7.5 m (25 ft)
Probe type	Thermocouple K		
Contact temperature range	–40 °C to 550 °C (–40 °F to 1022 °F)	–270 °C to 1372 °C (–454 °F to 2501 °F)	
Number of on-board memory locations	–	20	99
PC download and software	–	–	Yes, with FlukeView® Forms
Soft-key feature menu navigaton	–	Yes	
Min/Max/Avg/Dif	Min/Max/Dif	Min/Max/Dif	
Material type adjustment (emissivity)	Hi/Med/Lo	Material table or 0.1 to 1.00 by 0.01	
Two levels of backlight	–	Yes	
High and low alarms	–	High and low alarms	
Hands-free logging	–	–	Yes
Battery	2 AA		
Included case	Hard case (except 561/R and 561/P)	Hard case	
Warranty	Two-year		

Ordering information

Included accessories	Models	
USB cable, FlukeView® Forms software, thermocouple type K bead probe, carrying case, two AA batteries, users manual, quickstart guide.	FLUKE-568	Infrared Thermometer
	FLUKE-568Ex	IS Infrared Thermometer
Thermocouple type K bead probe, carrying case, two AA batteries, users manual and quickstart guide.	FLUKE-566	Infrared Thermometer
Thermocouple type K pipe probe, carrying case, two AA batteries, users manual.	FLUKE-561	Infrared Thermometer
9 V battery, instruction sheet.	FLUKE-61	Infrared Thermometer

Fluke 62 Max and 62 Max+ Infrared Thermometers

Fluke 62 Max+

N10140 Fluke 62 Max

- **Dust and water-resistant:** IP54 rated for dust/water resistance
- **Rugged:** 3 m (9.8 ft) drop tested
- **Ergonomically designed:** Completely redesigned for a more natural hand fit
- **Distance to spot:** Precise laser technology makes for more accurate and repeatable measurements
- **Dual lasers:** The 62 MAX+ has dual rotating lasers to help you identify area to be measured. The measurement area is the spot between the dots
- **Min/Max/Avg/Dif:** Displays the minimum, maximum or average temperature, or the difference between two measurements
- **Alarm:** Hi and Lo alarms for rapid display of measurements outside the limits

	62 Max	62 Max+
Temperature range	-30 °C to 500 °C (-22 °F to 932 °F)	-30 °C to 650 °C (-22 °F to 1202 °F)
Accuracy	± 1.5 °C or ± 1.5 % of reading, whichever is greater -10 °C to 0 °C: ± 2.0 -30 °C to -10 °C: ± 3.0	± 1.0 °C or ± 1.0 % of reading, whichever is greater -10 °C to 0 °C: ± 2.0 -30 °C to -10 °C: ± 3.0
Emissivity	0.10 to 1.00	
Optical resolution	10:1 (calculated at 90 % energy)	12:1 (calculated at 90 % energy)
Power	AA battery	
Compliance	EN/IEC 61010-1: 2001	
Laser safety	FDA and EN 60825-1 Class II	
Warranty	Three-year (conditional)	

Fluke 50 Series II Thermometers

Lab accuracy in a field thermometer

Fluke 54 II B

The Fluke 50 Series II contact thermometers offer fast response and laboratory accuracy in a rugged handheld test tool.

All models offer:

- Laboratory accuracy: ± (0.05 % + 0.3 °C)
- Large backlit dual display
- Min/Max/Avg
- Electronic offset function maximises overall accuracy
- Supports a wide range of thermocouple types
- Temperatures displayed in °C, °F, or Kelvin (K)

Powerful data logging capabilities

The Fluke 53 II B and 54 II B can log up to 500 points of data to internal memory.

- User-adjustable recording intervals
- Real-time clock captures the exact event time
- Recall function lets logged data be easily reviewed
- Download data to optional FlukeView® PC software

C US N10140

Features

Features	54 II B	53 II B	52	51
Thermocouple types	K,J,T,E,N,R,S	K,J,T,E,N,R,S	K,J,T,E	K,J,T,E
Number of inputs	Dual	Single	Dual	Single
Time stamp	Time of day	Time of day	–	–

Ordering information

Included accessories	Models	
Instruction sheet and battery	FLUKE-62 Max	Infrared Thermometer
	FLUKE-62 Max+	Infrared Thermometer, Dual Lasers
	FLUKE-62 Max+/T+PRO/1AC	IR Thermometer, Voltage Tester and Voltage Detector Kit
	FLUKE-T5-600/62 Max+/1AC	IR Thermometer, Electrical Tester and Voltage Detector Kit
	FLUKE-62 Max+/323/1AC	IR Thermometer, Clamp Meter and Voltage Detector Kit
	FLUKE-414D/62 Max+	IR Thermometer and Laser Distance Meter Kit
Bead thermocouple(s), batteries, overview manual and instructional guide on CD.	FLUKE-54-2-B	Datalogging Thermometer, Dual Input
	FLUKE-53-2-B	Datalogging Thermometer, Single Input
	FLUKE-52-2	Digital Thermometer, Dual Input
	FLUKE-51-2	Digital Thermometer, Single Input
K-type thermocouple bead probe, USB 2.0 computer interface cable, FlukeView® Forms Documenting Software, hard carrying case, getting started guide (print) and user's manual (CD).	FLUKE-572-2	Infrared Thermometer

Specialty models

Fluke 572-2 High Temperature Infrared Thermometer

The Fluke 572-2 Infrared Thermometer is the one product you can use in high temperature industrial environments all around the world. This is the best choice for when you need accurate results for high temperature readings from a long distance. Combined with ease of use and Fluke's ruggedness and reliability you can't go wrong.

- Measure -30 °C to 900 °C
- 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Compatible with standard mini-connector K-type thermocouples, including ones you already own and have installed
- Adjustable emissivity and predefined emissivity table
- FlukeView® Forms documenting software

Intrinsically safe model on page 75.

Recommended Kits

T5-600/62 MAX+/1AC-II Kit

- 62 MAX+ IR Thermometer
- T5-600 Voltage Electrical Tester
- 1AC-II Voltage Detector
- Carrying case

62 MAX+/323/1AC-II Kit

- 62 MAX+ IR Thermometer
- 323 Clamp Meter
- 1AC-II Voltage Detector
- Test leads
- Carrying case

414D/62 MAX+ Kit

- 62 MAX+ IR Thermometer
- 414D Laser Distance Meter
- Soft pouch for 414D

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 60 Series Infrared Thermometers

Fluke 61

Fluke 63

N10140

The Fluke 60 Series non-contact thermometers are the ideal professional diagnostic tools for quick and accurate temperature measurements. These handheld tools are ideal for measuring surface temperatures of rotating, hard-to-reach, electricity live or dangerously hot targets like electrical motors and – panels, and heating and ventilation systems.
The laser sighting system guides measurements to the right target and in less than a second, the large temperature display provides a readout of the surface temperature.

The 60 Series IR thermometers feature:

- Laser guided sighting system for easy targeting with 1% accuracy
- Up to 12:1 optical resolution
- Backlit display for easy reading in the dark
- Temperatures up to 535°C

Features

	61	63
Form factor	Flat grip	Pistol grip
Temperature range	-18 to 275°C	-32 to 535°C
Optical resolution	8:1	12:1
Laser beam for accurate targeting	•	•
Backlit LCD display	•	•
Use selectable °C or °F	•	•
Min/max/avg/dif readings		Max

Specifications

	61	63
Range	- 18 to 275°C	- 32 to 535 °C
Response time	< 500ms	≤ 0.5 second
Resolution	0.2 °C	0.2 °C
Repeatability (% of reading)	± 2% or ± 2 °C*	± 0.5% or ≤ ± 1 °C*
Accuracy: (assumes ambient operating temperature of 23°C)	For targets at: -18 to -1°C: ± 3°C -1 to 275°C: ± 2% of reading or ± 2°C	For targets at: -32 to -26°C: ± 3°C -26 to -18°C: ± 2.5°C -18 to 23°C: ± 2°C 23°C -510°C: ± 1% of reading or ± 1°C* For targets above 510°C: ± 1.5% of reading
Typical distance to target	Up to 1m	Up to 2 m
Emissivity	Fixed at 0.95	Fixed at 0.95

Battery Life:
Fluke 63: 10 hours with laser and backlight on
Fluke 61: 12 hours with laser and backlight on

Size (HxWxD):
Fluke 63: 200 mm x 160 mm x 55 mm
Fluke 61: 184 mm x 45 mm x 38 mm

Weight:
Fluke 63: 0.320 kg
Fluke 61: 0.227 kg

Ordering information

Included accessories	Models	
9V Battery	FLUKE 61	Infrared Thermometer
Hard carrying case, 9V batteries	FLUKE 63	Infrared Thermometer
AA Battery, quick start guide	Fluke FP	FoodPro™ Food Safety Thermometer
Built in contact probe, 9 V alkaline battery, quick start guide, operator's guide, soft carry pouch	Fluke FP Plus	FoodPro™ Plus Food Safety Thermometer

Fluke FoodPro™ and FoodPro Plus Food Safety Thermometers

Fluke brings its test and measurement equipment expertise to the food service industry with contact and non-contact temperature measurement solutions. The Fluke FoodPro Thermometer Series provides a complete temperature measurement and monitoring solution for foodservice professionals. It includes two useful temperature inspection tools, which are designed to enable foodservice professionals to quickly and accurately measure food product temperatures and to help detect potential food safety problems.

The Fluke FoodPro non-contact thermometer is the first line of defense against improper receiving, storage and holding temperatures. Using an infrared measurement technique, the highly accurate FoodPro quickly reads surface temperatures, allowing workers to make rapid and frequent temperature measurements – faster than contact units and without fear of cross contamination. The easy-to-see illumination light shows you the measurement area.

The Fluke FoodPro Plus combines the same infrared surface temperature scanner, as well as a probe thermometer and integrated countdown timer for complete inspections of food temperatures and monitoring cooking and cooling intervals.

Recommended Accessories

C23
Soft Carrying Case
See page 99

H6
Electrical Tester Holster
See page 99

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke VT04, VT04A and VT02 Visual IR Thermometers

NEW

Hot Spots Don't Stand a Chance

Fluke VT02

Fluke VT04/VT04A

Detect issues instantly!
Eliminate the need for multiple temperature measurements. Fluke Visual IR Thermometers combine the convenience of a spot thermometer with the visual advantage of an infrared heat map.

Key features of a visual IR thermometer:

Fits your budget
Fluke VT02, VT04 and VT04A Visual IR Thermometers give you bold temperature features at a price that allows you to outfit your entire team.

Intuitive interface
Get to work as soon as you take it out of the box.

Pocket-size design
Handy when you need it—easily fits in your tool bag or pocket.

Infrared heat map blending
Blend digital image with heat map overlay at 0 %, 25 %, 50 %, 75 %, and full infrared with one button.

Center-point temperature and hot and cold markers
Hot and cold markers automatically identify hottest and coldest spots within field of view.

SmartView® reporting software
Store up to 10,000 images per GB on included SD card and make reports with Fluke's professional reporting software.

Batteries that work as long as you
Choose between a rechargeable Lithium-ion battery (VT04) and 4 AA batteries (VT04A and VT02). Both options last 8 hours.

Additional benefits of VT04/VT04A
See more with PyroBlend® Plus optics
- Excellent field of view for tight spaces: 28° x 28°
- Four times sharper images than VT02

N10140

Alarm and time lapse features
- High/low temperature alarms—high and low temperature alarms flash whenever the temperature threshold is exceeded
- Time-lapse image capture—automatically capture images at set intervals of time without being there
- Auto-monitor alarm—automatically capture images after a user-selected temperature threshold has been exceeded

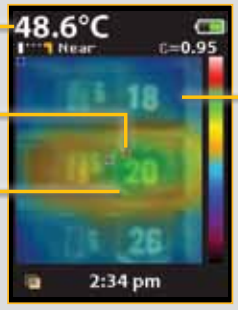
Designed to see it all

Every Fluke Visual IR Thermometer has a built-in digital camera with an infrared heat map overlay to instantly identify the exact location of the problem.

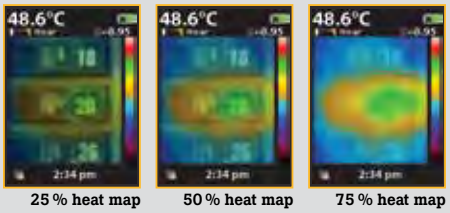
Center-point temperature (°C/°F)

Hot and cold markers

Digital image for context
Clearly see that breaker 20 is overloaded and communicate your findings.



Infrared heat map overlay



25 % heat map | 50 % heat map | 75 % heat map

Ordering information

Included accessories	Models	
Hard case(VT04) or soft case(VT04A/VT02), micro SD card and adapter, Lithium Ion battery and Micro USB Charger/Power Supply (including worldwide adapters) (VT04) or 4 AA batteries (VT04A/VT02)	FLUKE-VT02	Visual IR Thermometer
	FLUKE-VT04	Visual IR Thermometer
	FLUKE-VT04A	Visual IR Thermometer
	FLK-VT04-MAINT-KIT	Includes a VT04 Visual IR Thermometer and a 1507 Insulation Multimeter
	FLK-VT04-HVAC-KIT	Includes a VT04 Visual IR Thermometer, 902 True-RMS HVAC Clamp Meter and a 116 Digital Multimeter.
	FLK-VT04-ELEC-KIT	Includes a VT04 Visual IR Thermometer, a 117 Electricians MultiMeter and a 376 AC/DC True-RMS Clamp Meter

Recommended Accessories

FLK-VT04-BATTERY
VT04 replacement Li-ion rechargeable battery

FLK-VT04-CHARGER
Extra charger for VT04

C90
Soft Case
See page 99

Recommended Kits

Save money with these Fluke kits:

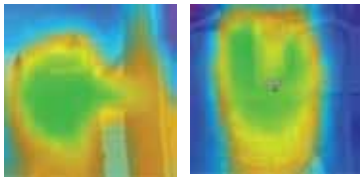
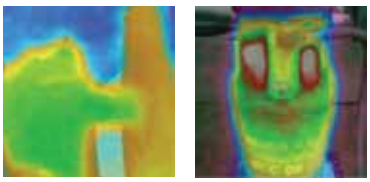
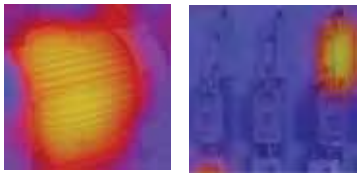
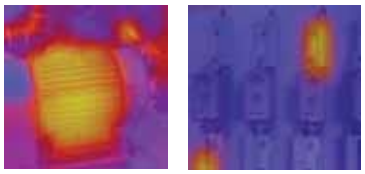
VT04 MAINTENANCE KIT
Kit includes a VT04 Visual IR Thermometer and a 1507 Insulation Multimeter

VT04 HVAC KIT
Kit includes a VT04 Visual IR Thermometer, a 902 True RMS HVAC Clamp Meter and a 116 Digital Multimeter

VT04 ELECTRICIAN'S KIT
Kit includes a VT04 Visual IR Thermometer, a 117 Electrician's Multimeter and a 376 AC/DC True RMS Clamp Meter

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Specifications

Key features	VT02	VT04/VT04A
Built-in digital camera	Yes	
Infrared heat map overlay	Yes, five blending modes	
Image optics system	PyroBlend™ optic 	PyroBlend™ Plus optic 4x sharper image than VT02 
Field of view	20° x 20° 	28° x 28° 
High/low temperature alarms	—	Yes
Time lapse image capture	—	Yes
Auto-monitor alarm	—	Yes
Battery type	Four (4) AA batteries	VT04: Li-Ion rechargeable VT04A: Four (4) AA batteries
Ergonomics	Slim pocket-sized design	
Hot and cold markers	Yes	
General specifications		
Battery life	Eight (8) hours	
Temperature measurement range	-10 °C to +250 °C (14 °F to 482 °F)	
Temperature measurement accuracy	± 2 °C or ± 2 %	
Temperature measurement	Yes, center-point	
Storage medium (micro SD card)	Stores up to 10,000 images per GB (4 GB card included)	
Infrared spectral band	6.5 µm to 14 µm	
Level and span	Auto	
Dimensions	21 cm x 7.5 cm x 5.5 (8.3 in x 3 in x 2.2 in)	
Warranty	Two-years	

SmartView® Software

Document problems

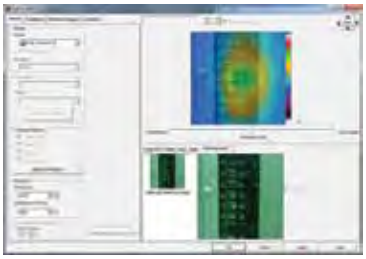
Producing a professional report with Smartview software is just as powerful as the VT02 and VT04/VT04A tools themselves. You will be able to communicate the issues that you've detected or document repairs that have been fixed.

Free upgrades. Free to share.

We don't charge you for software upgrades. They're free for the life of the product. We enable you to share this software with others.

The smart choice

- Extensive optimisation and analysis tools with multiple viewing options
- Multiple reporting options and templates
- Enhance and analyse images quickly and easily
- Report Wizard guides you through automatic report generation
- Communicate image details with text annotation drag and drop feature
- Lifetime software upgrades, and no sharing limitations



Sample SmartView software view.

FLUKE 810 VIBRATION TESTER
AC-3
Diagnosis: Faults
15/03/2010 05:48 PM
Extreme: Motor Thrust Bearing Problem
Serious: Motor Free End Bearing Wear
Moderate: Motor Drive End
1 of 4
Repair Details
History
Details
Next
Exit
SAVE
SETUP
MEMORY
MEASURE
INFO
DIAGNOSE
INSTRUMENT SETUP
ENTER

Vibration

Fluke 810 Vibration Tester

Take a vibration expert along

Fluke 810

N10140

Get answers now!

The Fluke 810 Vibration Tester is the most advanced troubleshooting tool for mechanical maintenance teams who need an answer now. It is a unique new kind of troubleshooting tool, engineered to detect and evaluate the most common mechanical problems.

The Fluke 810 Vibration Tester uses a simple step-by-step process to report on machine faults the first time measurements are taken, without prior machine history.

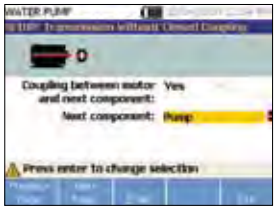
Use the Fluke 810 to:

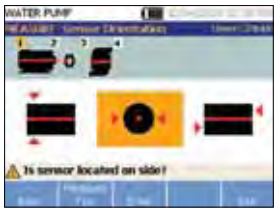
- Easily determine the root cause, location and severity of common mechanical faults
- Efficiently prioritise and plan equipment repair or replacement
- Effectively deploy maintenance resources at the point of greatest impact

Simple 3 step process

The Fluke 810 helps you locate and diagnose common mechanical problems and prioritise repair actions in three simple steps:

1. **Setup:** Vibration testing has never been easier. The Fluke 810 asks for basic machine information you already know, like RPM and horsepower. Its onboard info feature gives you field tips for setting up and taking measurements like a professional .
2. **Measure:** The Fluke 810 easily fits into your maintenance routine. Use it to quickly troubleshoot problems or monitor machine condition.
3. **Diagnose:** Fix it right the first time with the press of a button, the Fluke 810 identifies the root cause, its location, and the problem's severity.





Breakthrough diagnostic technology

The Fluke 810's diagnostic technology combines powerful algorithms with a database of real-world measurement experience, making this Vibration Tester the most advanced troubleshooting tool for mechanical maintenance teams.

Analyse most common equipment:

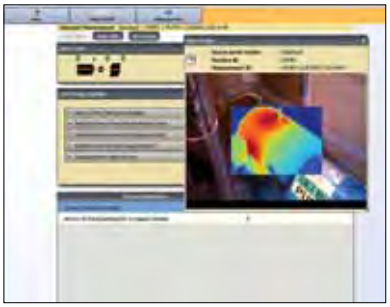
- Motors
- Fans and blowers
- Belt and chain drives
- Gearboxes
- Pumps
- Compressors
- Spindles

Detect the most common causes of mechanical failure:

- Bearing problems
- Misalignment
- Unbalance
- Looseness

Viewer PC Software

- Store and track your data
- Generate diagnostic reports and track the severity of your machine's condition
- Import and store JPEG images



Interactive, self-paced training on DVD

Learn more about the basics of vibration and how to fully utilise the features and functionality of the Fluke 810. Fluke has partnered with Mobius Institute, an industry leader in vibration training, to develop an interactive training DVD included with each Fluke 810.

Specifications

Diagnostic specifications	
Analysis for	Motors, fans, blowers, belts and chain drives, gearboxes, couplings, centrifugal pumps, piston pumps, sliding vane pumps, propeller pumps, screw pumps, rotary thread/gear/lobe pumps, piston compressors, centrifugal compressors, screw compressors, closed coupled machines, spindles
Standard faults	Unbalance, looseness, misalignment and bearing failures
Motor rotational speed range	200 rpm to 12000 rpm
Diagnosis details	Plain-text diagnosis, fault severity (slight, moderate, serious, extreme), repair details, cited peaks, spectra
Tester specifications	
IP rating	IP 54
A/D converter	4 channel, 24 bit
Dynamic range	128 dB
FFT resolution	800 lines
Battery	Lithium-ion, rechargeable, 8 hours operating life
Onboard storage capacity	2 GB internal + user accessible slot for additional storage
Warranty	Three-years (tester), One-year (sensor and tachometer)
Sensor specifications	
Sensor type	Tri-axial accelerometer , 100 mV/g (± 5 %, 25 °C)
Tachometer specifications	
Tachometer type	Laser Diode Class 2

Ordering information

Included accessories	Models	
Tri-axial accelerometer, magnet mount, mounting pad kit with adhesive, quick-disconnect accelerometer cable, laser tachometer with storage pouch, battery pack with cable and adapters, shoulder strap, adjustable hand strap, Viewer PC software, mini USB to USB cable, carrying case, training DVD, getting started guide, quick reference guide, users manual on DVD.	FLUKE-810	Vibration Tester
Additional accessories	810SC-20	Sensor Cable, 20 ft

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke 805 Vibration Meter

Forget the pens. Think METER.

Fluke 805

N10140

The Fluke 805 is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions. With the Fluke 805, you can identify the strength and severity of vibration and easily track the data over time to monitor an asset's condition.

Trust the Fluke 805 for:
Reliable bearing assessments with Crest Factor+ technology
Repeatable measurements time after time with an innovative sensor design
Consistent data quality at both low and high frequency ranges

Key features:

- Four-level severity scale assesses urgency of vibration problems
- Exportable data via USB and trending in Microsoft® Excel using built-in templates
- Overall vibration measurement (10 Hz to 1,000 Hz) for acceleration, velocity and displacement units of measurement for a wide variety of machines
- Coloured lighting system (green, red) and on-screen comments indicate how much pressure needs to be applied to take measurements
- Non-contact temperature measurement increases diagnostic capabilities
- On-board memory stores up to 3,500 measurements
- Audio output enables listening to bearing tones directly
- External accelerometer support for hard to reach locations
- Flashlight for viewing measurement locations in dark areas
- Large screen with high resolution for easy navigation and viewing

Specifications

Vibration meter	Low frequency range (overall measurement)	10 Hz to 1,000 Hz
	High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz
	Severity levels	Good, Satisfactory, Unsatisfactory, Unacceptable
	Vibration limit	50 g peak (100 g peak-peak)
	A/D converter	16-bit
	Signal to noise ratio	80 dB
	Sampling rate	Low frequency: 20,000 Hz; high frequency: 80,000 Hz
	Real time clock backup	Coin battery
Sensor	Sensitivity	100 mV / g ± 10%
	Measurement range	0.01 g to 50 g
	Low frequency range (overall measurement)	10 Hz to 1,000 Hz
	High frequency range (CF+ measurement)	4,000 Hz to 20,000 Hz
	Resolution	0.01 g
	Accuracy	At 100 Hz ± 5 % of measured value
Amplitude units	Acceleration	g, m/sec²
	Velocity	in/sec, mm/sec
	Displacement	mils, mm
Infrared thermometer (temperature measurement)	Range	-20 °C to 200 °C (-4 °F to 392 °F)
	Accuracy	±2 °C (4 °F)
	Focal length	Fixed, at ~3.8 cm (1.5")
External sensor (Fluke supports, but does not provide, external sensors)	Frequency range	10 Hz to 1,000 Hz
	Bias voltage (to supply power)	20 V DC to 22 V dc
	Bias Current (to supply power)	Maximum 5 mA
Firmware	External interfaces	USB 2.0 (full speed) communication
	Data capacity	Database on internal flash memory
	Upgrade	through USB
	Memory	Up to 3,500 measurements
Environmental	IP rating	IP54
	Drop test	1 metre
General specifications	Battery type	AA (2) Alkaline or Lithium-ion 2 V dc
	Battery life	250 measurements
	Size (L x W x H)	25.72 cm x 16.19 cm x 9.84 cm (10.13 in x 6.38 in x 3.875 in)
	Weight	1.16 kg (2.55 lb)
	Connectors	USB mini-B 7-pin, stereo audio output jack (3.5 mm Audio Plug), external sensor jack (SMB connector)

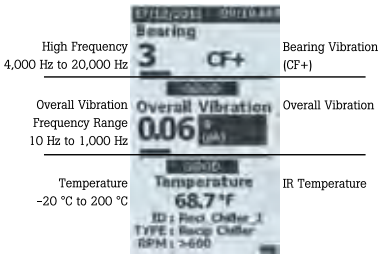
Ordering information

Included accessories	Models
USB cable, storage case, belt holster, quick reference guide, CD-ROM (includes MS Excel template and documentation), and two AA batteries.	FLUKE-805 Vibration Meter

What is Crest Factor+?

Crest Factor (CF) is used to identify bearing faults and is the ratio of the peak value/RMS value of a time domain vibration signal. A key limitation of using Crest Factor is that it does not increase linearly as the bearing degrades. In fact, it can actually decrease as a bearing nears failure due to large RMS values.

To overcome this limitation, Fluke uses a proprietary algorithm known as Crest Factor + (CF+). CF+ values range from 1 to 16. As the bearing condition worsens, the CF+ value increases. Fluke has also included a four-level severity scale that identifies the bearing health as Good, Satisfactory, Unsatisfactory or Unacceptable.



Exporting and trending in Excel

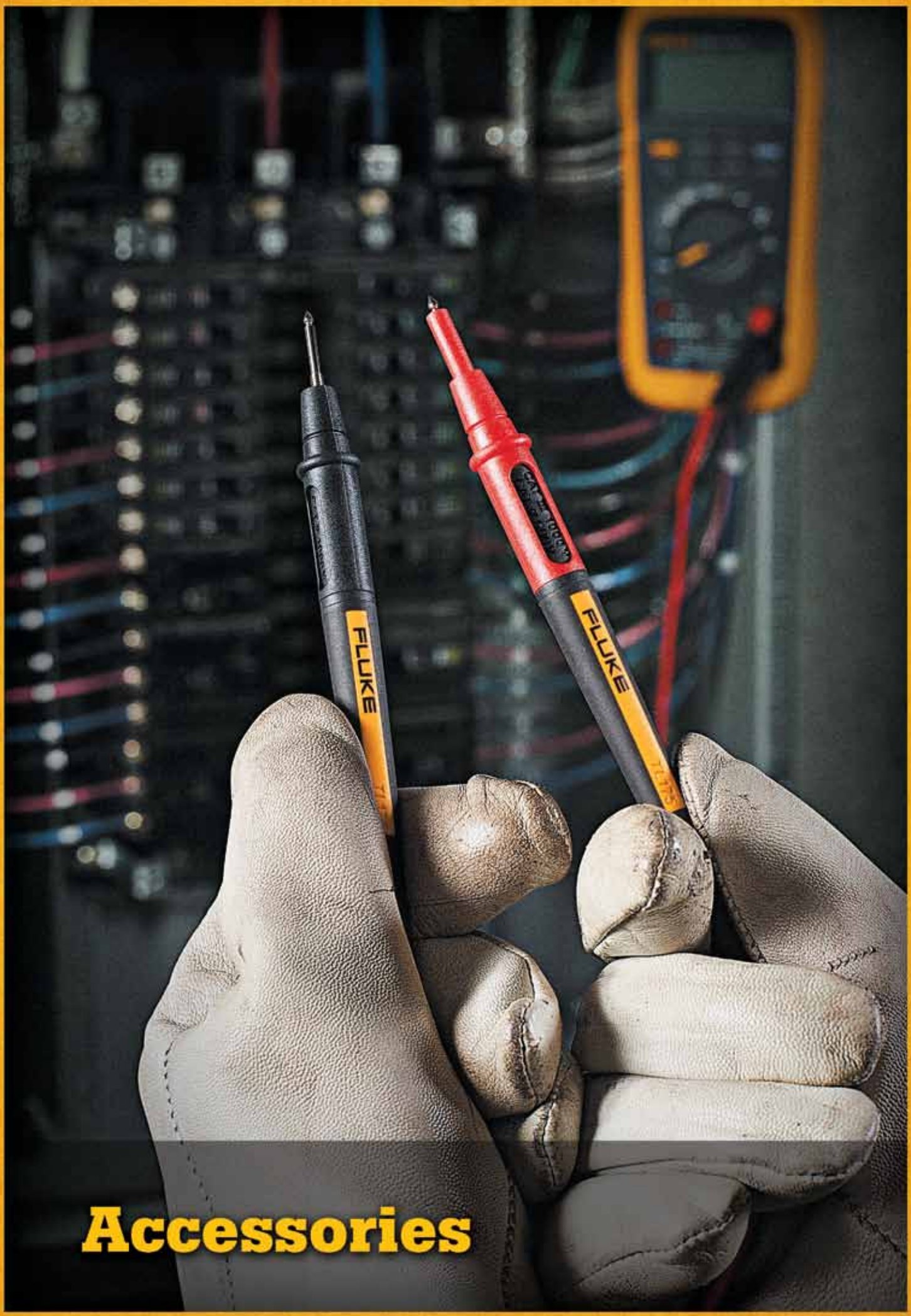
Trending, or repeated vibration measurements kept in a spreadsheet over time, is the best method to track machine health. With the Fluke 805 you can easily:

- Export your results to Excel through a USB connection
- Trend the readings with the pre-built Excel templates and plot graphs
- Compare the overall vibration readings to ISO Standards (10816-1, 10816-3, 10816-7)

Import measurements from the 805 Vibration Meter to an Excel template on your PC in order to trend the bearing parameters: overall vibration, CF+, and temperature. The user can now see a clear picture of the changing bearing condition and deteriorating health of the machine.

Sample trend plot using the Fluke 805 trending template.

Contact your local distributor for price and availability.
www.fluke.com/my/wtb



Accessories

Fluke cases and holsters

A premium meter deserves a premium case

Soft cases

CAMO-C25 Camouflage Carrying Case
- High quality 1000D fabric
- Dimensions (HxWxD): 20.3 x 12.1 x 4.6 cm (8 x 4.8 x 1.8 in)

CAMO-C37 Camouflage Carrying Case
- High quality 1000D fabric
- Dimensions (HxWxD): 26.5 x 9 x 3 cm (10.5 x 3.5 x 1.2 in)

C12A Meter Case
- Case with inside pockets and belt loop
- Dimensions (HxWxD): 172 x 128 x 38 mm (6.8 x 5 x 1.5 in)

C75 Accessory Case
- Zippered carrying case
- Dimensions (HxWxD): 179 x 103 x 26 mm (7 x 4 x 1 in)

C50 Meter Case
- Case with inside pocket, belt loop and inside meter strap
- Dimensions (HxWxD): 192 x 90 x 38 mm (7.56 x 3.5 x 1.5 in)

C25 Large Soft Case for DMMs
- Case with padding and inside pocket
- Dimensions (HxWxD): 218 x 128 x 64 mm (8.6 x 5 x 2.52 in)

C90 Soft Case for DMMs
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 205 x 90 x 72 mm (8 x 3.5 x 2.8 in)

C35 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 220 x 140 x 65 mm (8.7 x 5.5 x 2.6 in)

C23 Soft Carrying Case
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 225 x 95 x 58 mm (8.9 x 3.75 x 2.3 in)

C280 Soft Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 230 x 185 x 65 mm (9 x 7.3 x 2.6 in)

C115 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 240 x 205 x 75 mm (9.5 x 8 x 3 in)

C116 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 240 x 230 x 65 mm (9.5 x 9 x 2.6 in)

C781 Meter Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 269 x 141 x 90 mm (10.6 x 5.6 x 3.5 in)

C33 Soft Carrying Case
- Case with inside pocket and belt loop
- Dimensions (HxWxD): 280 x 115 x 55 mm (11 x 4.5 x 2.2 in)

C789 Meter and Accessory Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 308 x 256 x 77 mm (12 x 10 x 3 in)

C43 Soft Carrying Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 318 x 230 x 90 mm (12.5 x 9.1 x 3.5 in)

C550 Tool Bag
- Made of ballistic cloth with heavy-duty hardware
- Dimensions (HxWxD): 333 x 513 x 231 mm (13 x 20.2 x 9.1 in)

C345 Soft Case
- Made of durable polyester 600D
- Dimensions (HxWxD): 360 x 200 x 240 mm (14 x 8 x 9.5 in)

Hard cases

CXT Series Extreme Cases
- Models CXT80, CXT170, and CXT280 for various meter compatibility
- Unbreakable, watertight, airtight, chemical resistant and corrosion proof

C800 Meter and Accessory Case
- Dimensions (HxWxD): 230 x 385 x 115 mm (9 x 15 x 4.5 in)

C101 Hard Case
- Dimensions (HxWxD): 305 x 360 x 105 mm (12 x 14.2 x 4.1 in)

C100 Universal Carrying Case
- Dimensions (HxWxD): 397 x 346 x 122 mm (15.7 x 13.6 x 4.8 in)

C1600 Gear Box
- Includes five hook and loop straps to wrap cords and test leads
- Dimensions (HxWxD): 260 x 390 x 200 mm (10 x 15 x 7.8 in)

Leather cases

C520A Leather Tester Case
- Dimensions (HxWxD): 256 x 154 x 106 mm (10 x 6 x 4 in)

C510 Leather Meter Case
- Dimensions (HxWxD): 287 x 179 x 106 mm (11 x 7 x 4 in)

Holsters

H80M Protective Holster
- Includes a hanging magnet, general purpose hanger, and hook and loop straps
- Dimensions (HxWxD): 190 x 95 x 43 mm (7.5 x 3.7 x 1.7 in)

H5 Electrical Tester Holster
- Dimensions (HxWxD): 192 x 90 x 38 mm (7.5 x 3.5 x 1.5 in)

H3 Clamp Meter Holster
- Dimensions (HxWxD): 231 x 90 x 64 mm (9 x 3.5 x 2.5 in)

H6 IR Thermometer Holster
- Dimensions (HxWxD): 302 x 178 x 57 mm (11.9 x 7 x 2 in)

Cases and Holsters Selection Guide	113/114/115/116/117	27 II/28 II	77-4/175/177/179	83V/87V	233	287/289	8845A/8846A/8808A	120/190/22X Series	51-II/52-II/53-II B/54-II B	561/566/568	63/66/68	321/322	355	365/373/902	374/375/376/381	705/707	712/714/715/717/72X Series	718/719	753/754	787/789	T+/T+PRO	T5-600/T5-1000	1503/1507/1577
C12A	•															•							
C23	•		•	•	•							•											
Camo-C25	•	•	•	•	•	•			•			•					•			•	•		•
C25	•	•	•	•	•	•			•			•					•			•	•		•
C33												•		•	•							•	
C35			•		•																•	•	
Camo-C37												•		365	•						•		•
C43				•	•	•		•		•			•	•	•					•			
C50	•																				•		
C75	The C75 is designed to hold test leads, probes, clips and other required accessories																						
C90	•		•						•												•		
C100		•	•	•						•			•				71X			787			
C101	•	•	•	•	•	•		•	•		•	•		•	•	•	•	•		•		•	•
C115/C116	•	•	•	•	•	•		•						365			•	•		•			•
C125		•	•	83V	•																		
C280	•	•	•	•	•	•		•	•							•	•	•		•	•		
C345	The perfect case for carrying a wide range of Fluke handheld test tools and accessories																						
C510			•						•					•	•					787			
C520A																					•	•	
C550/C1600	The C550 and C1600 are large enough to hold accessories and multiple test tools																						
C781						•		•						•	•		72X	•	•	789			•
C789								•		•			•	365				•		•			
C799																			•				
C800			•	•						•			•	•	•		71X			787			
CXT80		•		•	•												72X			•			
CXT170	•		•						•								71X			•			•
CXT280						•														•			

Fluke accessory sets and kits

Get an outstanding value with our most popular accessories

TL220 Industrial Test Lead Set
- Starter kit for industrial applications
- TP238 has insulated stainless steel tip
- Includes 1 pair: AC220, TP220, TL222
- CAT III 1000 V, CAT IV 600 V, 10 A

TL223 Electrical Test Lead Set
- Starter kit for electrical applications
- TP1 has flat blades for wall sockets
- Includes 1 pair: AC220, TP1, TL224
- CAT II 1000 V, 10 A

TLK287 Electronics Master Test Lead Set
The perfect test lead kit for today's electronics test and design.
- Precision electronic probes with multiple spring-loaded sharp tips to maximise contact with SMD test points
- Micro-grabbers and leads to enable fine SMD test
- Modular mini-alligator clips, grabbers, leads, probes, and couplers for virtually every electronics need

TLK289 Industrial Master Test Lead Set and Case
Designed for electrical and electronics test in today's industrial environment.
- SureGrip™ alligator clips, grabbers and hook clips for dependable contact with a variety of test points
- TP175 TwistGuard™ Test Probes
- Magnetic hanger for suspension of your DMM
- Temperature adapter with type K thermocouple for direct temperature measurement with your DMM's

TLK-220 SureGrip™ Accessory Kit with Meter Carrying Case
- Plunger style alligator clips
- Large jaw alligator clips
- Sharp test probes
- Right to straight test leads
- Zippered vinyl carry case with moveable divider
- Holds large DMMs

TLK-225 SureGrip™ Master Accessory Kit
- TP175 TwistGuard™ Test Probes
- Plunger style alligator clips
- Plunger style hook clips
- Plunger style pincer clips
- Large jaw alligator clips
- Right to straight test leads
- Six-pocket storage pouch, keeps the entire set together

T5-Kit, Tester Starter Kit
Getting started kit for electricians who already own a Fluke T5 Tester.
- Test probes
- Large jaw alligator clips
- Zippered soft case

Test Lead Kits Selection Guide	113/114/115/116/117	27 II/28 II/27	77 IV	175/177/179	83V/87V/233	287/289	434/435	8845A/8846A/8808A	120 Series	190 Series	225C	321/322	355	365/373	374/375/376/381	902	705/707	71X Series	724/725/726	753/754	787/789	T+/T+Pro	T5-600/T5-1000	1503/1507/1577/1587
TLK287	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•			•
TLK289	116	•	•		•	•		•	•	•	•			•	•	•				•				
TL220	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•			•
TL223	•	•	•	•	•	•		•	•	•	•			•						•				
TL225	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•			•
TL238	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•			•
TL80A	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•			•
TL81A	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•			•
80K-8, 80K-15, 80K-40	DC only	•	•	•	•	•		•	•	•	•										•			

For more information, go to **www.fluke.com/my**

Fluke test leads, probes and clips

The best leads for all your measurement needs

For electronic applications

TL80A Basic Electronic Test Lead Set
- Six piece set with zippered case
- Probes, alligator clips and tip extenders for electronic applications
- CAT II 300 V
- CAT III 1000 V, CAT IV 600 V with protective cap

TL910 Electronic Test Probes with Replacement Tips
- Small profile provides accessibility
- Comes with five sets of replaceable tips
- Replacement tips: TP912
- CAT II 1000 V, 3 A

TP80 Electronic Test Probes
- Tapered tip ideal for probing electronic components or boards
- Removable guard for IC probing
- CAT III 1000 V, 10 A

TP920 Test Probe Adapter Kit
- IC test tip adapters, extended tips, medium alligator clips fit over TL71 and TL75 test lead sets
- IC test tip Adapter, 3 A
- Extended probe tip, 3 A
- Med. alligator clip, 5 A
- CAT II 300 V

TL40 Retractable Probe Assembly
- Retractable, insulated sharp probe tip
- CAT III 300 V, 3 A

TL26A Telecom Test Lead Set
- Five-way multipoint test clips for telecommunications applications
- Flexible silicone insulated leads are heat and cold resistant
- CAT I 30 V, 8 A

For automotive applications

TP81 and TP82
- Stainless steel probe pierces insulation on 14, 16 and 18 gauge wire
- Design provides complete insulation while working on fuel injectors or sensors
- TP81 for use with modular test leads (Fluke TL224)
- TP82 slips over probe tips (Fluke TL71)
- Rated to 60 V dc

TP88 Rigid Backprobe Pin Set
- Two inch long pins pass between the weather pack seal and wire
- Use with Fluke TL71 or TL75 test lead sets
- Rated to 60 V dc

TP40 Automotive Back Probe Pin Set
- Set of five 1.5 inch pins
- Rated to 60 V dc
- Provide an easy connection past weather pack seals to connector conductors
- Use with Fluke TL71 or TL75 test lead sets

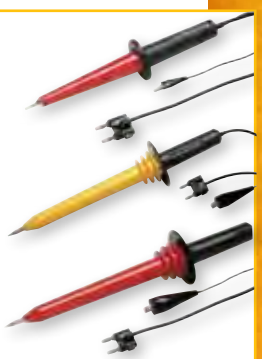
TL82 Automotive Pin & Socket Adapter Set
- Collection of male and female adapters allows you to make firm connection to pin and socket connectors
- Adapters with flexible tips come in the following sizes: 22, 20, 16 and 12
- Rated to 60 V dc

TLK281 Automotive Test Lead Kit
- Insulation piercing probes
- SureGrip™ silicone test leads
- SureGrip test probes
- SureGrip plunger style alligator clips
- SureGrip alligator clips
- Carrying case

TLK282 Deluxe Automotive Test Lead Kit
- Insulation piercing probes
- Set of five automotive back probe pins
- SureGrip silicone test leads
- SureGrip test probes
- SureGrip plunger style alligator clips
- SureGrip alligator clips
- SureGrip hook clips
- Carrying case

High-voltage probes

80K-6, 80K-15, 80K-40 High Voltage Probes
- Allows a digital multimeter to measure up to 6,000 volts peak, 15,000 volts peak and 40,000 volts peak respectively
- 1000:1 division ratio output when connected to 10 MΩ multimeter
- Ground clip included
- For low energy applications that are referenced to ground only
- 80K-15



Fluke SureGrip™ Accessories

As tough as your meter

Modular test leads and test probes (use test probes with test leads)

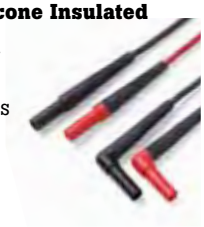
TP175, TwistGuard™ Test Probes
- Converts probe tip length between 4 mm, a CAT III 1000 V, CAT IV 600 V measurement and 19 mm, a CAT II 1000 V measurement
- Fits standard modular test leads

FTPL-1 SureGrip™ Fused Test Probes with Leads
- FTP-1 Fused Test Probes with built-in fuses for added protection
- TL224 Silicone Insulated Test Leads
- CAT III 1000 V, CAT IV 600 V, 10 A

TL221 SureGrip™ Silicone Test Lead Extension Kit
- Superior strain relief
- Includes two adapters to extend leads 1.5 m
- CAT III 1000 V, CAT IV 600 V, 10 A

TL222 SureGrip™ Silicone Insulated Test Leads
- Superior strain relief
- Recommended for use with AC220, AC280, AC283 test clips
- CAT III 1000 V, CAT IV 600 V, 10 A

TL224 SureGrip™ Silicone Insulated Test Leads
- Superior strain relief
- 1.5 m silicone-insulated wire resists heat and cold
- CAT III 1000 V, CAT IV 600 V, 10 A



FTP-1 SureGrip™ Fused Test Probes
- Built-in fuses for added protection
- 2 mm threaded probe tips include removable 4 mm lantern-style spring contacts
- Removable GS38 insulated caps
- CAT III 1000 V, CAT IV 600 V, 10 A

TP1, TP2, TP4 and TP38 Slim Reach™ Test Probes
- Slender probe bodies for probing closely spaced or recessed points
- TP1 has a flat blade
- TP2 has 2 mm diameter tip
- TP4 has 4 mm diameter tip
- TP38 has stainless steel insulated probe to help lessen the risk of arc flash explosion
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V (TP38 only)

TP220 SureGrip™ Industrial Test Probes
- Sharp, .5 inch stainless steel tip provides reliable contact
- Flexible finger barrier improves grip
- CAT II 1000 V, 10 A

Modular clips (use with test leads, includes one red, one black)

AC220 SureGrip™ Alligator Clips
- Insulated, nickel plated jaws grip objects up to .375 inch
- Blunt tip grabs round screw heads
- CAT III 1000 V, CAT IV 600 V, 10 A

AC280 SureGrip™ Hook Clips
- Profile narrows to .22 inch at tip
- Hook opening .20 inch at front, .08 inch at base
- CAT III 1000 V, CAT IV 600 V, 3 A

AC283 SureGrip™ Pincer Clips
- 4.5 inch flexible, insulated shaft
- Nickel plated pincers open to .20 inch
- CAT III 1000 V, CAT IV 600 V, 1 A

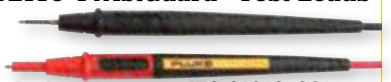
AC285 SureGrip™ Alligator Clips
- Multi-purpose tooth pattern grips anything from fine gauge wire to a .75 inch nut
- Nickel-plated steel jaws
- Accepts standard modular 4 mm test leads
- CAT III 1000 V, CAT IV 600 V, 10 A

AC175 Threaded Alligator Clips
- Threads securely onto TL175 or TP175 probes
- Insulated alligator clips with flexible boots
- Jaw opening: 7 mm (0.275 in), jaw contact material: nickel-plated steel
- CAT III 1000 V, CAT IV 600 V

AC173 Extended Tooth Alligator Clips
- Extended tooth jaw with front placement for attaching to screw heads
- Accepts standard 4 mm modular test leads
- Jaw opening: 8 mm (0.31 in), jaw contact material: nickel-plated steel
- CAT III 1000 V, CAT IV 600 V

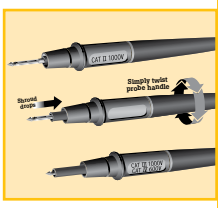
The new standard for safety

TL175 TwistGuard™ Test Leads



- Probes meet new IEC 61010-031 requirements for safety
- Patented extendable tip guard meets new CAT III 1000 V, CAT IV 600 V requirements while providing the flexibility you need for CAT II measurements

- **New** Wear-Guard™ test lead wear indicator that changes colour when leads are damaged and in need of replacement



- Probes always show correct category rating for tip being used
- Advanced strain relief exceeds 5,000 bend life
- TP175 probes fit modular test leads

TL238 SureGrip™ Test Lead Set for high energy environments
- Insulated tip probes help lessen risk of arc flash explosion
- Probe extenders keep hands away from live current

- Includes one pair each, insulated test tip probes, probe extenders and TL224 Test Leads
- Probes and leads CAT III 1000 V, CAT IV 600 V, 10 A, extenders CAT III 1000 V 10 A

TL71 Premium DMM Test Lead Set
- Flexible silicone insulated leads are heat and cold resistant
- Distinctive comfort grip probes

- Recommended for µV measurements
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V with protective cap

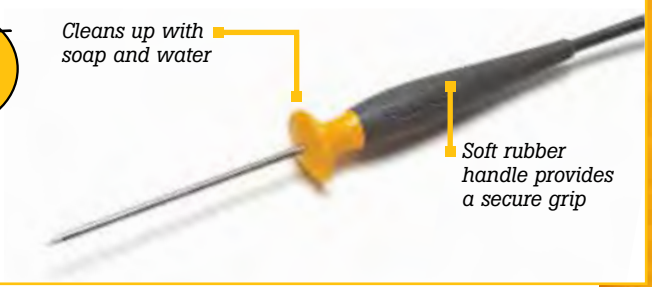
TL75 Hard Point Test Lead Set
- Extremely hard alloy tips resist wear
- Distinctive comfort grip probes
- 1.5 m PVC leads
- CAT II 1000 V, 10 A
- CAT III 1000 V, CAT IV 600 V with protective cap

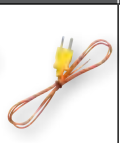
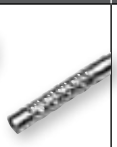
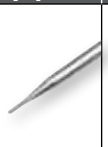
Fluke Temperature Accessories

Hot probes with cool designs

SureGrip™ temperature accessories

The innovative SureGrip™ design from Fluke is now available in select temperature probes. The soft rubber handle combined with a new ergonomic shape is so comfortable to hold that you'll forget about the probe and focus on the measurement. All SureGrip probes have an improved, more flexible strain relief for a long life.



	Bead	Bead	HVAC	Immersion	Surface	Air	Piercing	General purpose	Industrial surface
									
	80BK-A	80PK-1 80PJ-1	80PK-11	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27
Lowest temperature	–40 °C (–40 °F)		–30 °C (–22 °F)	–40 °C (–40 °F)	0 °C (32 °F)	–40 °C (–40 °F)	K Type: –40 °C (–40 °F) T Type: –196 °C (–321 °F)	–40 °C (–40 °F)	–127 °C (–196 °F)
Highest temperature	260 °C (500 °F)		105 °C (221 °F)	1090 °C (1994 °F)	260 °C (500 °F)	816 °C (1500 °F)	350 °C (662 °F)	816 °C (1500 °F)	600 °C (1112 °F)
Probe material	Type K wire with teflon insulation		Velcro	Inconel 600	Type K sensor with teflon body	Inconel	316 Stainless Steel	304 Stainless Steel	
Probe length	1 m lead wire		19 in Velcro cuff	21.27 cm (8.375 in)	9.525 cm (3.75 in)	21.59 cm (8.5 in)	10.16 cm (4 in)	21.57 cm (8.5 in)	20.32 cm (8 in)
Cable length	1 m (3.3 ft)				1.3 m (4 ft)	1 m (3.3 ft)			
Connection	Standard banana jack	Molded thermocouple plug							
SureGrip handle	No	No	No	Yes	No	Yes	Yes	Yes	Yes
Key feature	Ideal for initial troubleshooting. Can be secured in place with a magnet.		Velcro probe allows hands free temperature measurement.	For use in liquids or in gels.	Exposed junction for direct contact with flat or slightly convex surfaces.	Perforated baffle for air and non-caustic gas measurements.	Probe material safe for use in foods. Sharp tip pierces solid surfaces.	Use for general purpose air or surface measurements.	Low conductivity stainless steel minimises thermal shunting. Extra rugged.
Thermocouple types	K	K, J	K	K			K, T	K	
Typical use									
General purpose	•	•	•	•	•	•	•	•	•
HVAC	–	•	•	•	•	•	–	•	•
Food service	–	–	–	•	–	–	•	–	–
Industrial	•	•	•	–	–	–	–	–	•
Residential	•	•	–	–	•	•	•	–	–
Commercial	•	•	•	•	•	•	•	•	•

The 80TK enables your meter to read temperature using mV.
For the Fluke Thermometer, 51, 52, 53, and 54 III, no adapter is necessary for thermocouple types K, J, T and E.

Temperature Accessories Selection Guide	110/111/112	114/115/117	116	27 II	28 II	175/177	179	233	80 Series III/83V	87V	187/189	287/289	45/8845/8846	43B	120 Series	190 Series	51-II/52-II/53-II B/54-II B	561	574/576	714	715	725/726	741/743/744/754	787/789	902	1587	1577
80BK-A	–	–	•	–	–	–	•	•	–	•	•	•	–	–	–	–	–	–	–	–	–	–	–	•	•	–
All 80PK Probes	✱	✱	▲	✱	▲	✱	▲	▲	✱	▲	▲	▲	✱	✱	✱	✱	•	•	•	•	✱	•	•	✱	•	▲	▲
80PJ-1/80PJ-9	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	–	•	–	•	•	–	–	–	–
80PT-25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	–	•	–	•	•	–	–	–	–
80TK	•	•	–	•	–	•	–	–	•	–	–	–	•	•	•	•	–	–	–	–	•	–	–	•	–	–	–
80T-150UA	•	•	–	•	–	•	–	–	–	–	–	–	•	•	•	•	–	–	–	–	•	–	–	•	–	–	–
80PJ-EXT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	–	•	–	•	•	–	–	–	–
80PK-EXT	✱	✱	▲	✱	▲	✱	▲	▲	✱	▲	▲	▲	✱	✱	✱	✱	•	–	–	•	✱	•	•	✱	•	▲	–
80PT-EXT	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	–	•	–	•	•	–	–	–	–
80CK-M	✱	✱	▲	✱	▲	✱	▲	▲	✱	▲	▲	▲	✱	✱	✱	✱	•	–	–	•	✱	•	•	✱	–	▲	–
80CJM	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	•	–	–	•	–	•	•	–	–	–	–

✱ Requires 80TK ▲ Requires 80AK-A – N/A

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Fluke Temperature Accessories

Turn your digital multimeter into a thermometer

Other temperature accessories

80TK Thermocouple Module

- Converts type K thermocouple signals into mV output
- Connects to DMM via standard banana plugs
- Switch selectable °C or °F
- Range: -50 °C to 1000 °C (-58 °F to 1832 °F)
- Includes 80PK-1 probe

80T-150UA Universal Solid State Temperature Probe

- For measurement of air, surface and non-corrosive materials
- Measurement range: -50 °C to 150 °C (-58 °F to 302 °F)
- Output: 1 mV/°C or 1 mV/°F (switch selectable)
- Connects to DMM via standard banana plugs

80PK-8, 80PK-10, Pipe Clamp Temperature Probes

- Type K thermocouples clamp securely onto pipes for fast temperature and superheat measurements
- Durable ribbon sensors
- 1 m (39 in) lead
- Measure from -29 °C to 149 °C
- 80PK-8 for 6.4 mm to 34.9 mm (0.25 in to 1.375 in)
- 80PK-10 for 32 mm to 64 mm (1.25 in to 2.5 in)

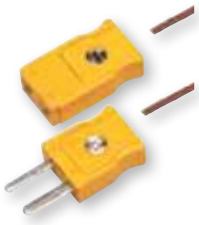
80PK-18, Pipe Clamp Temperature Probe Kit

- Includes both 80PK-8 and 80PK-10 Type K clamps
- Provides full range of pipe measurement sizes
- Includes soft carrying case to conveniently keep both clamps handy for any situation

80CK-M and 80CJ-M Type K and J Male Mini-Connectors

- Isothermal screw terminal for K or J wire
- Suitable for up to 20 gauge thermocouple wire
- Colour coded to industry standards (K-yellow, J-black)
- Two per package

80PJ-EXT, 80PK-EXT, 80PT-EXT Thermocouple Wire Extension Kits

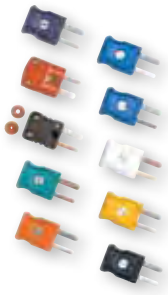


For extending and repairing type J, K or T thermocouple wires.

- Kit includes 3 m (9 ft) of thermocouple wire and 1 pair of male/female mini-connectors
- Maximum continuous exposure temperature: 260 °C (500 °F)
- 80PK-EXT is compatible with type K thermometers; 80PJ-EXT is designed for type J thermometers, and 80PT-EXT is designed for type T thermometers

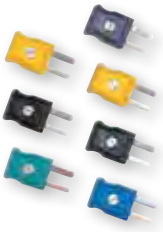
Thermocouple Plug Kits

700TC1



A kit of ten mini-plug connectors. One each of the following:
Type J (black)
Type K (yellow)
Type T (blue)
Type E (purple)
Type R/S (green)
Type B or Cu (white)
Type L (J-DIN) (blue)
Type U (T-DIN) (brown)
Type C (red)
Type N (orange)

700TC2



A kit of seven mini-plug connectors.
Type J (black), two
Type K (yellow), two
Type E (purple), one
Type T (blue), one
Type R/S (green), one

Process tools accessories

BP7240

- Li-ion rechargeable battery; nominal 7.2 volt, 4400 mA hr
- Use with 750 Series Calibrators

BP7235

- NiMH rechargeable battery; nominal 7.2 volt, 3500 mA hr
- Use in 700 and 740 Series Calibrators

700LTP-1 Low Pressure Test Pump

Hand operated pressure pump designed to generate either vacuum to -13 psi/-.90 bar or pressures to 100 psi/6.9 bar. Ideal for low pressure applications requiring accurate low pressure testing.

700ILF In-line Filter

The Fluke 700ILF can be used to isolate the calibrator from incidental contact with fluids. Particularly useful with the 718 calibrator to help keep moisture or oils from contaminating the on-board pump.

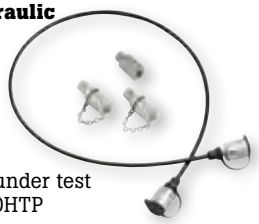
700PTP-1 Pneumatic Test Pump

The Fluke 700PTP is a handheld pressure pump designed to generate either vacuum to -11.6 psi/-0.8 bar or pressure to 600 psi/40 bar.

700HTP-2 Hydraulic Test Pump

The Fluke 700HTP is designed to generate pressures up to 10,000 psi/700 bar. Use the Fluke 700PRV adjustable relief valves to limit pressures from 1360 psi to 5450 psi.

700HTH-1 Hydraulic Test Hose



The 700HTH is a 10,000 psi, 700 bar test hose that connects to a calibration unit under test from a Fluke 700HTP hydraulic test pump.

700PMP Pressure Pump

The 700PMP is a hand-operated pressure pump to provide pressures up to 150 psi/1000 kPa. Output fitting is 1/8 FNPT.

Fluke 700-IV Current Shunt

Conversion factor: 10 mV = 1 mA
Accuracy (% of input, one-year): 0.025 %
Input current: 0 mA to 55 mA
Input resistance: 250 Ω nominal
Output resistance: 10 Ω nominal
Accuracy specification applies from +18 °C and 28 °C to 50 °C
Maximum input voltage: 30 V dc

Fluke Current Clamps

For use with Multimeters, Portable Oscilloscopes and Power Quality Analysers

Genuine Fluke Accessory

AC only models

i3000s Flex-24 (24 in dia), i3000s Flex-36 (36 in dia), i6000s Flex-24 (24 in dia) i6000s Flex-36 (36 in dia)

AC Current Clamp Specifications

	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex	i3000s Flex	i6000s
AC current range	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A	1 A to 800 A	0.2 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	60 A to 6000 A
Accuracy	≤ 3 % + 0.5 A 48 to 65 Hz	≤ 1 % + 0.5 A 48 Hz to 65 Hz	2 % + 0.06 A 45 Hz to 400 Hz	.5 A to 40 A, 2 % + .015 A, 5 A to 400 A, 2 % + .04 A, 45 to 400 Hz	0.1 A to 10 A ± 3 % + .01 A, 10 A to 200 A ± 2 %, 200 A to 800 A ± 1 %	0.2 to 10 A: 3 % + 0.1 A 10 A to 100 A: 2 % + 0.5 A 100 A to 1000 A: 1 % + 1 A 48 to 65 Hz	1 to 30 A: 2 % + 0.1 A 1 to 300 A: 2 % + 0.5 A 1 to 3000 A: 2 % + 2 A 48 to 65 Hz	± 1 % of range 45 to 65 Hz Ranges: 20 A, 200 A, 2000 A	± 1 % of range, 45 Hz to 65 Hz Ranges: 30 A, 300 A, 3000 A	± 1 % of range 45 to 65 Hz
Bandwidth (-3 dB)	40 Hz to 40 kHz	40 Hz to 40 kHz	5 kHz to 20 kHz	5 Hz to 10 kHz	30 Hz to 10 kHz (typical)	5 Hz to 100 kHz	10 Hz to 100 kHz	10 Hz to 20 kHz	10 Hz to 50 kHz	10 Hz to 50 kHz, (- 3 dB)
Maximum conductor diameter	20 mm (0.8 in)	20 mm (0.8 in)	32 mm (1.25 in)	32 mm (1.25 in)	54 mm (2.13 in)	54 mm (2.13 in)	64 x 100 mm (2.52 x 3.94 in)	177 mm (7 in)	177 mm (7 in) or 265 mm (10.4 in)	193 mm (7.6 in) or 289 mm (11.4 in)
Maximum conductor size	300 MCM	300 MCM	750 MCM	750 MCM	2-500 MCM or 1-1000 MCM	2-500 MCM or 1-1000 MCM	64 mm (2.52 in)	610 mm (24 in) circumference	610 mm or 915 mm circumference	610 mm (24 in) or 915mm (36 in)
Output levels	1 mA/A	10 mV/A 100 mV/A	1 mA/A	10 mV/A 1 mV/A	1 mA/A	1 mV/A 10 mV/A 100 mV/A	10 mV/A 1 mV/A 0.1 mV/A	100 mV/A 10 mV/A 1 mV/A	100 mV/A 10 mV/A 1 mV/A	50 mV/A 5 mV/A 0.5 mV/A
Output cable	1.5 m shrouded banana plugs	2 m to BNC termination	1.5 m shrouded banana plugs	2.5 m to BNC termination	1.6 m shrouded banana plugs	1.6 m to BNC termination	2.1 m to BNC termination	2 m with double shrouded banana plugs	2.1 m to BNC termination	2 m to BNC, 4 mm plug adapter supplied
Warranty	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year	One-year
Safety rating	CAT III 600 V	CAT III 600 V	CAT III 1000 V CAT IV 600 V	CAT III 1000 V CAT IV 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

AC Current Clamp Selection Guide

Meter	i200	i200s	i400	i400s	i800	i1000s	i3000s	i2000 Flex[1]	i3000s Flex	i6000s
114/116		1 A to 200 A		0.6 A to 400 A*		0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
115/117	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
233	60 A to 200 A	1 A to 200 A	60 A to 400 A	0.6 A to 400 A*	60 A to 800 A	0.6 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
27II	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
28II	1.8 A to 200 A	1 A to 200 A	1.8 A to 400 A	1.8 A to 400 A	1.8 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
77 IV		1 A to 200 A		1 A to 400 A*		0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
175/177/179	3 A to 200 A	1 A to 200 A	3 A to 400 A	1 A to 400 A*	3 A to 800 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
1577/1587 Insulation Meter	3 A to 200 A	1 A to 200 A	3 A to 400 A	3 A to 400 A*	3 A to 400 A	0.3 A to 1000 A*	3 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
83V/88V	2 A to 200 A	1 A to 200 A	2 A to 400 A	1 A to 400 A*	2 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
87V	2 A to 200 A	1 A to 200 A	2 A to 400 A	2 A to 400 A*	2 A to 800 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
287/289	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
43B Power Quality Analyzer		1 A to 200 A		0.35 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
434/435 Power Quality Analyzer		1 A to 200 A		1.2 A to 400 A		0.3 A to 1000 A	1.2 A to 3000 A	Best to use i430Flex	Best to use i430Flex-TF	
120 Series ScopeMeters		1 A to 200 A		2.5 A to 400 A		0.25 A to 1000 A	2.5 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
190 Series Scopemeters		1 A to 200 A		1 A to 400 A		0.1 A to 1000 A	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
8808A	1 A to 200 A	1 A to 200 A	1 A to 400 A	0.5 A to 400 A*	1 A to 800 A	0.1 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
8845A/8846A	1 A to 200 A	1 A to 200 A	1 A to 400 A	1 A to 400 A*	1 A to 800 A	0.2 A to 1000 A*	1 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF
787/789 Process Meters	50 A to 200 A	1 A to 200 A	50 A to 400 A	2 A to 400 A*	50 A to 440 A	0.2 A to 1000 A*	2 A to 3000 A	2 A to 2000 A	3 A to 3000 A	Best to use i430Flex-TF

* Requires PM9081/001 Adapters.
[1] Three range version.
[2] Current and watt readings will be multiples of 10 higher or lower than actual on some ranges.

Fluke Current Clamps

For use with Multimeters, Portable Oscilloscopes and Power Quality Analysers

AC/DC models

80i-110s

i1010

i30s

i410

i310s

i310s, i30s and i30 Hall Effect AC/DC Current Clamps
Especially useful for low current measurements down to 30 milliamps.

i30

AC/DC Current Clamp Specifications

	80i-110s	i410	i1010	i30	i30s	i310s
DC range	0.1 A to 100 A	1 A to 400 A	1 A to 1000 A	30 mA to 30 A	30 mA to 30 A	0.1 A to 450 A
AC range	0.1 A to 70 A	1 A to 400 A	1 A to 600 A	30 mA to 20 A rms	30 mA to 20 A rms	0.1 A to 300 A
Accuracy	0.1 A to 10 A; DC to 1 kHz: ± 3 % + 50 mA; up to 100 A add 15 %; up to 20 kHz add 12 %	3.5 % + 0.5 A for DC or AC (45 to 400 Hz)	2 % + 0.5 A for DC or AC (45 to 400 Hz)	± 1 % of reading, ± 2 mA	± 1 % of reading, ± 2 mA	30 A range: 1 % + 50 mA 300 A range: 1 % + 300 mA
Bandwidth (-3 dB)	100 kHZ	3 kHz	10 kHz	DC to 20 kHz (-0.5 dB)	DC to 100 kHz (-0.5 dB)	DC to 20 kHz
Zero error adjustment	Yes	Yes	Yes	Yes	Yes	Yes
Maximum conductor diameter	11.8 mm (0.46 in)	30 mm (1.18 in)	30 mm (1.18 in)	19 mm (0.75 in)	19 mm (0.75 in)	19 mm (0.75 in)
Maximum conductor size	1 AWG	750 MCM or 2-500 MCM	750 MCM or 2-500 MCM	250 MCM	250 MCM	250 MCM
Output levels	10 mV/A, 100 mV/A	1 mV/A	1 mV/A	100 mV/A	100 mV/A	1 mV/A, 10 mV/A
Output cable	1.6 meter with BNC termination	1.2 meter with shrouded banana plugs	1.2 meter with shrouded banana plugs	1.5 meter with shrouded dual banana plue	2 meter with BNC termination	2 meters with BNC termination and a BNC to safety shrouded banana adapter
Battery life	40 hours	60 hours	60 hours	30 hours	30 hours	30 hours
Warranty	One-year	One-year	One-year	One-year	One-year	One-year
Safety	CAT II 600 V; CAT III 300 V	CAT III 600 V	CAT III 600 V	CAT III 300 V	CAT III 300 V	CAT III 300 V

AC/DC Current Clamp Selection Guide

Meter	80i-110s	i410	i1010	i30	i30s	i310s
114/115/116/117	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1.4 A to 400 A dc/ 6 A to 400 A ac	1.4 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 0.6 A to 300 A ac
233	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1.4 A to 400 A dc/ 6 A to 400 A ac	1.4 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 0.6 A to 300 A ac
27II	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
28II	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 6 A to 400 A ac	1 A to 1000 A dc/ 6 A to 600 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	30 mA to 30 A dc/ 60 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
77-IV	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 5 A to 400 A ac	1 A to 1000 A dc/ 5 A to 600 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	30 mA to 30 A dc/ 40 mA to 20 A ac	0.1 A to 450 A dc/ 0.4 A to 300 A ac
175/177/179	0.11 A to 100 A dc/ 0.3 A to 70 A ac*	1.6 A to 400 A dc/ 30 A to 400 A ac	1.6 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
1577/1587 Insulation Meter	0.1 A to 100 A dc/ 0.3 A to 70 A ac*	1.2 A to 400 A dc/ 30 A to 400 A ac	1.2 A to 1000 A dc/ 30 A to 600 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	30 mA to 30 A dc/ 300 mA to 20 A ac	0.1 A to 450 A dc/ 3 A to 300 A ac
83V/88V	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
87V	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac
287/289	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
123/124 ScopeMeters	0.1 A to 100 A dc/ 0.25 A to 70 A ac	1 A to 400 A dc/ 25 A to 400 A ac**	1 A to 1000 A dc/ 25 A to 600 A ac**	30 mA to 30 A dc/ 250 mA to 20 A ac**	30 mA to 30 A dc/ 250 mA to 20 A ac	0.1 A to 450 A dc/ 2.5 A to 300 A ac
190 Series Scopemeters	0.1 A to 100 A dc/ 0.1 A to 70 A ac	1 A to 400 A dc/ 5 A to 400 A ac**	1 A to 1000 A dc/ 5 A to 600 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac**	30 mA to 30 A dc/ 50 mA to 20 A ac	0.1 A to 450 A dc/ 0.5 A to 300 A ac
8808A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 2 A to 400 A ac	1 A to 1000 A dc/ 2 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.2 A to 300 A ac
8845A/8846A	0.1 A to 100 A dc/ 0.1 A to 70 A ac*	1 A to 400 A dc/ 1 A to 400 A ac	1 A to 1000 A dc/ 1 A to 600 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	30 mA to 30 A dc/ 30 mA to 20 A ac	0.1 A to 450 A dc/ 0.1 A to 300 A ac
705/707	0.1 A to 100 A dc, No ac*	4 A to 400 A dc, No ac	4 A to 1000 A dc, No ac	40 mA to 30 A dc, No ac	40 mA to 30 A dc, No ac	0.4 A to 450 A dc, No ac
715	0.1 A to 100 A dc, No ac*	4 A to 400 A dc, No ac	4 A to 1000 A dc, No ac	40 mA to 30 A dc, No ac	40 mA to 30 A dc, No ac	0.1 A to 450 A dc, No ac
787/789 Process Meters	0.1 A to 100 A dc/ 0.2 A to 70 A ac*	1 A to 400 A dc/ 20 A to 400 A ac	1 A to 1000 A dc/ 20 A to 600 A ac	30 mA to 30 A dc/ 200 mA to 20 A ac	3 mA to 30 A dc/ 200 mA to 20 A ac	0.1 A to 450 A dc/ 2 A to 300 A ac

* Requires PM9081 Adapter
** Requires PM9082/001 Adapter
***Only for use with the 430 Series Power Quality Analyzers

Fluke Lights and Hangers

Free your hands and shed light on the contact point

LVD1 Volt Light
- Exclusive dual-sensitivity
- Detects voltages from 40 V AC to 300 V AC
- Voltage detector glows blue at 50 Hz to 60 Hz or 2.5 cm to 38 cm (1 in to 5 in) away from source
- Ultra-bright white LED with 100,000 hour bulb life
- AAA battery included

LVD2 Volt Light
- Non-contact AC voltage detector and bright white LED flashlight
- Detects voltage from 90 V to 600 V AC from one to five inches away
- CAT IV rated, one-year warranty

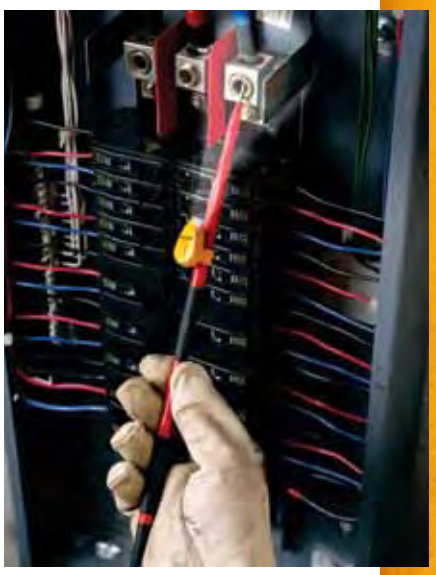
L205 Mini Hat Light
Rugged, high-intensity Xenon worklight.
- Attaches to a baseball cap
- Includes a hat clip
- Includes two AAA batteries
- Waterproof

L206 Deluxe LED Hat Light
(hard hat not included)
Attach it to a hard hat, a baseball cap, or even a panel door.
- Three super bright white LEDs—never burn out
- Special hard-hat attachment included
- 40-hour battery life
- Includes three AAA batteries

TPAK ToolPak™ Magnetic Meter Hanger
- Free both hands to make measurements
- Hang your meter from metallic surfaces like panels and pipes
- Kit includes universal hanger clips (two), hook and loop straps (two lengths), adapter and strong magnet
- Attaches to back of many Fluke meters, including 110, 170, 180, 280 Series, 87V and 83V DMMs, 724, 725 and 789 Process Calibrators, 70 Series III DMMs, 1503, 1507, 1577 and 1587 Insulation Multimeters and 50 Series II Digital Thermometers

LeadWrap Test Lead Fasteners
- Keep your favourite leads together
- Hook and loop fasteners
- Three per package

L215 SureGrip™ Kit with Probe Light and Probe Extenders
- L200 probe light
- TP220 SureGrip test probes
- TL224 SureGrip test leads
- TP280 test probe extenders
- Soft foldable pouch, keeps the entire set together



L210 Probe Light and Probe Extenders
- 8 inch probe extenders fit modular test probes
- Probe and extender length complies with NFPA recommendations
- Bright white LED illuminates contact area

Specialty Accessories and Software

Get more out of your multimeter

Stray voltage

SV225

- Eliminates stray voltage due to capacitance between wires in electrical installations
- Compatible with all instruments and test leads that accept standard 4 mm shrouded banana connectors

Pressure and vacuum

PV350 Pressure Vacuum Module

- Digital pressure and vacuum measurements in a single module
- Measures HVAC/R, hydraulic and pneumatic pressures to 350 psig/2413 kPa (usable to 500 psig)
- Measures to 76 cm Hg (29.9 in Hg) vacuum (not intended for measuring microns of vacuum)
- Compatible with most digital multimeters

Fiber optics

FOM Fiber Optic Meter

The Fluke Fiber Optic Meter (FOM) helps you test and maintain fiber optic cable without having to buy a whole new meter. Plug the FOM directly into any DMM with a mV DC funtion and a 10 mΩ input impedance, and quickly and accurately verify fiber optic cable system loss. Light sources and patch cords sold separately.

FOS 850 and FOS 850/1300 Fiber Optic Light Sources

A variety of LED light sources allow you to test different cables.

Fuse selection guide

Replacement fuses for Fluke DMMs are available from your distributor.
For more information contact Fluke South East Asia at info.asean@fluke.com

Model	Fuse Requirements
21-III/75-III/73-III	P/N 871173 630mA 250V fuse P/N 803293 11A 1000V fuse
27 (S/N<7247001)	P/N 871173 630mA 250V fuse P/N 871202 3A 600V fuse P/N 892583 15A 600V fuse
27 (S/N>7247001	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
83/85/87 (S/N>6565000)	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
83-III/85-III/87-III 87-IV/89-IV/187/189/287/289/ 77-III/79-III/23-III/26-III/175/177/179/77-IV/27-II/28-II	P/N 943121 440mA 1000V fuse P/N 803293 11A 1000V fuse
111/112/115/117/233	P/N 803293 11A 1000V fuse
1577/1587	P/N 943121 440mA 1000V fuse
1503/1507	P/N 2279339 315mA 1000V fuse
787/789	P/N 943121 440mA 1000V fuse (Qty 2)

Selection Guide	110/111/112	114/115/116/117	27 II/28 II/27	175/177	179	80 Series III/83V	87/89 IV	87V	233	287/289/187/189	43B	120 Series	190 Series	51/52/53/54 II	705/707	715	725/726	741/743	744	787/789	1587	1577
TPak	•	•		•	•	83V	•	•	•	•				•			•			789	•	•
PV350 (pressure)	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•	•	•	•
FOM (fiber optic)	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•	•		
CO-210	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•	•		

*53 B II, 54 B II only.

Model	Instrument compatibility	Cable
FVF-BASIC	Fluke 280 Series, 789, 1550B, 1653, 180 Series	USB / IR
FVF-SC2	Fluke 280 Series, 789, 1550B, 1653, 180 Series	USB / IR
FVF-SC4	Fluke 8808A, 8845A, 8846A, 45*	USB / Serial
IR189USB	USB cable for Fluke-18X, 28X DMMs	USB / IR

Logging software

FlukeView® Forms

Harness the power of the data logging function on your Fluke Digital Multimeter, Thermometer or ProcessMeter. Log live readings while connected to a PC, or leave your Fluke 289, 789 or 54-II in place to capture up to 1,000 readings for download to a PC.

Choose the model that's right for you:

- **FVF-SC2:** Includes software and cable used with 280 Series DMMs and 789 ProcessMeters, and the 1550B Insulation Tester
- **FVF-SC3:** Includes software and cable used with 45 Bench Meters
- **FVF-SC4:** Includes software and cable used with 8845A and 8846A Multimeters

Go to **www.fluke.com/my** to download the demo.

FlukeView® Forms Basic

An abridged version of FlukeView Forms.

- Compatible for use with 280 Series DMMs and 789 ProcessMeters only
- Upgrade to the full FlukeView Forms with FVF-UG

Choose the model that's right for you:

- **FVF-Basic:** FlukeView Forms Basic transfers data from Fluke test tool to a PC. Displays readings in table or graphical format.
- **FVF-SC2, -SC4:** FlukeView Forms Full provides Basic software functions plus customisable documents and templates.
- **FVF-UG:** FlukeView Forms Upgrade, compatible with all forms of FlukeView Forms (Basic and Full)

Contact your local distributor for price and availability.
www.fluke.com/my/wtb

Training Centre

Fluke Seminars and Workshops

Fluke offers a variety of tools including hands-on and online training, videos and demos to help increase your skills. Fluke seminars and workshops cover a range of topics to help you learn the latest troubleshooting techniques and best practices. Most of Fluke's seminars and workshops combine instructor lead training with the opportunity to use the tools and try the techniques presented.

MOTORS & DRIVES

The Fluke Hands-on Motors and Drives workshop will assist attendees to troubleshoot faster and avoid downtime using the latest measurement technology and test tools.

WHAT YOU WILL LEARN?

- Understand a range of measurements and tools that can be used to isolate possible causes of failure in a three-phase motor drive system
- Understand specific measurement techniques and test tool applications to isolate fault conditions
- Reduce downtime by improving troubleshooting practices

POWER QUALITY

The Fluke Power Quality Hands-On Seminar will help attendees discover how to detect and prevent power quality problems with the right tools and knowledge from Fluke. This course will educate attendees to reduce expensive plant downtime by using planned maintenance techniques to improve power quality, and reduce costly electrical utility penalties for poor power quality.

WHAT YOU WILL LEARN?

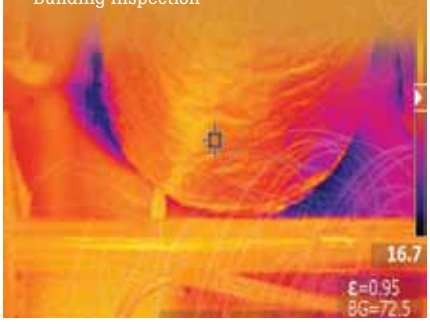
- Fundamentals of Power Quality
- How to troubleshoot power quality with Fluke's Power Quality Analysers
- How to save money by improving power quality

THERMOGRAPHY

The Fluke Thermal Imaging Hands-on Workshop will help attendees learn how to troubleshoot faster and avoid downtime using the latest infrared technology and create extensive reports on IR thermography surveys.

WHAT YOU WILL LEARN?

- Fundamentals of thermal imaging
- Understand the factors which affect the temperature readings
- How to troubleshoot using the infrared cameras in various applications:
  - Electrical
  - Mechanical / Electromechanical
  - Heating, Ventilation and Air-conditioning
  - Building inspection

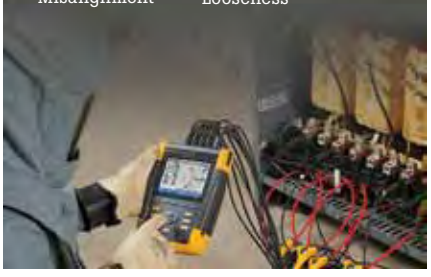


PREDICTIVE MAINTENANCE

The Fluke Predictive Maintenance Workshop provides, Thermal Imaging, Vibration Testing and Analysing hands-on training that will help learners to troubleshoot faster and avoid downtime using the latest infrared technology and vibration technology.

WHAT YOU WILL LEARN?

- Proactive Maintenance 101
- Fundamentals of thermal imaging
- How to troubleshoot using the infrared cameras in various applications
- How to prepare thermography inspection reports and quantify cost savings
- How to operate the Fluke 810 Vibration tester on rotating machineries to identify the following mechanical faults:
  - Unbalance
  - Misalignment
  - Bearings
  - Looseness



PROCESS TOOLS

The Fluke Process Tools Hands-on training teaches attendees how to test and verify 4-20mA signal and devices as well as various pressure and temperature transmitters which will assist to troubleshoot faster and avoid costly downtime.

WHAT YOU WILL LEARN?

- Testing, troubleshooting, calibrating, process temperature devices
- Testing and troubleshooting 4mA to 20mA control loops
- Measuring loop power supplies and troubleshooting suspect power supplies
- Using a HART transmitter as a mA source
- Testing a I/P with 4 to 20 mA sourcing
- Testing a control valve with a 4 to 20 mA source

ENERGY MEASUREMENT

Discover how to reduce energy consumption and increase savings by learning where and how to quantify energy consumption, and identify energy waste.

WHAT YOU WILL LEARN?

- Strategies to lower your energy bill
- Tools to identify and quantify waste
- Measure and log power consumption
- Identify and measure common production process system wastes
- Detect energy waste with vibration detection and analysis
- Calculate the dollar cost of compressed air
- Measure voltage unbalance to calculate waste
- Quantify electrical cost of ventilation
- How to reduce HVAC costs

Want to learn more about the different appreciation areas in the Fluke series or to view the New Year Calendar for a workshop near you go to **http://fluke.com/my/trainingcentre**

Maximise uptime, minimise downtime

Identify your maintenance costs and save money

Maximising uptime and minimising downtime are the main challenges today for most maintenance staff.

Constant condition monitoring maximises component life, tracks equipment wear trends and reduces downtime by identifying problems before they occur. From precision analysers to troubleshooters, loggers and recorders, Fluke tools are all you need to help you cut plant energy costs and minimise downtime and production stops.
Visit our online platform today for a library of information designed to help you get the most from your time and staff. As partners we believe that if you succeed, we will too.

Learn more: **http://fluke.com/my/pdm**

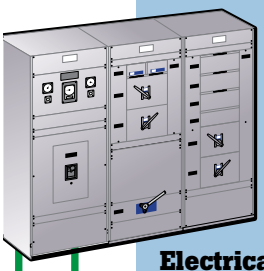
Make your energy waste visible Identify energy waste and save money

Energy is a critical issue for facilities around the world. Undiscovered and uncorrected energy waste represents tremendous savings. Managing energy efficiency in your facility can save money. Conducting an energy inspection can reduce energy costs by up to 25%.

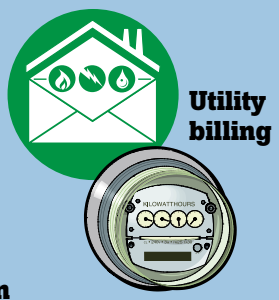
The materials in this resource centre were designed to help you measure energy efficiency, design an energy measurement program for your facility and justify the program to management.

Wasted energy costs you money every year.
If you don't know how much, it's now time to find out.

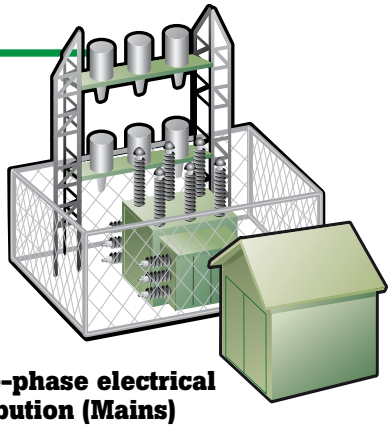
Electrical subsystem



Electrical distribution infrastructure

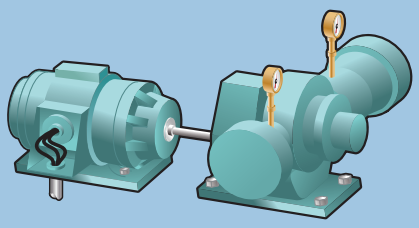


Utility billing

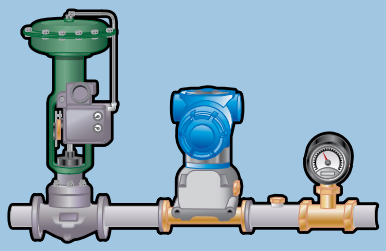


Three-phase electrical distribution (Mains)

Production process systems

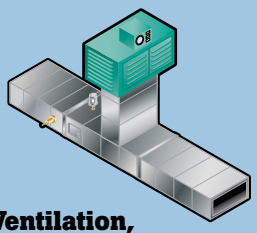


Mechanical loads

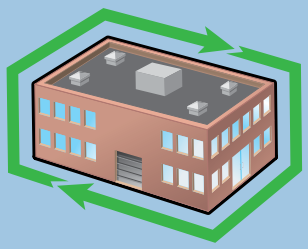


Flow: Air compression, steam

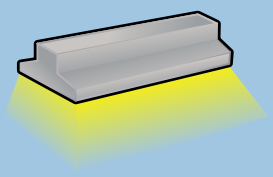
Building infrastructure



Ventilation, heating, cooling



Building envelope



Lighting

Introducing the Fluke Energy Resource Centre.

Everything you need to know about saving money by identifying and measuring energy waste.

- Success stories
- Interactive illustrations
- Checklists
- Videos and more
- Case studies

Get started today, visit:
http://fluke.com/my/energy

FLUKE.

New products from Fluke

Fluke 709H Precision Loop Calibrator with HART

The 709H offers HART communication and supports a select set of the HART universal and common practice commands.

For information on the new 709H Precision Loop Calibrator see page 58.

Fluke 1730 Three-Phase Energy Logger

Energy and cost reduction opportunities are here, find them with the new Fluke 1730 Energy Logger. Getting the information you need to make critical cost saving decisions is now within your reach. Quantify energy usage across your facility, identify energy inefficiencies and evaluate cost savings potential.

For information on the new 1730 Three-Phase Energy Logger see page 48.

Fluke 719Pro and 721 Precision Pressure Calibrators

The ideal tool for gas custody transfer applications is the Fluke 721 Precision Pressure Calibrator. With dual isolated pressure sensors, it allows you to take simultaneous static and differential pressure measurements with a single tool. The 719Pro includes a full functioning loop calibrator that sources, simulates and measures mA signals and more making it the ideal test tool for calibrating high accuracy transmitters, pressure switches and pressure gauges.

For information on the new 719Pro and 721 Precision Pressure Calibrators see page 66 and 67.

Fluke 700G Precision Pressure Test Gauges

With best-in-class accuracy and measurements, the NEW Fluke 700G series precision pressure test gauges were designed to handle all of your pressure calibration needs. The 700G series pressure test gauges are rugged and easy to use, with twenty three models ranging from ±10 inH20/20 mbar to 10,000 psi/690 bar including absolute pressure ranges.

For information on the new 700G Precision Pressure Test Gauges, see page 68.

Fluke 568 Ex Intrinsically Safe Infrared Thermometer

The Fluke 568 Ex Intrinsically Safe Infrared Thermometer is the one product you can use in Class I Div 1 and Div 2 or Zone 1 and 2 hazardous environments anywhere in the world. Whether you work in petroleum, chemical, oil and gas, or pharmaceutical environments, the 568 Ex allows you to carry the most trusted name in test tools into most Ex rated areas all around the globe.

For information on the new 568 Ex Infrared Thermometers see page 75.

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For Thailand	**http://www.fluke.com/th**
For Vietnam	**http://www.fluke.com/vn**

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